

Representing space in Oceania:

culture in language and mind

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Representing space in Oceania: culture in language and mind

edited by

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1 *Introduction*

GIOVANNI BENNARDO

Oceania has traditionally been the ‘place’ in which great debates about the human condition have been started, conducted, and sometimes resolved.¹ This volume on the conceptualisation of space in Oceania proves once more the vitality, usefulness, and necessity of the research conducted in this geographically vast, linguistically varied, and culturally fascinating area of the world.

This book is about three-dimensional space as a knowledge domain.² The first major goal of the volume is to contribute to research on space, in particular to the linguistic, mental, and cultural representations of spatial relationships. The second major goal is to provide for the first time a survey of the research on space in one specific cultural area, that is, Oceania. The final major goal is to suggest strongly within the research on space the value of cross-linguistic and cross-cultural research as well as the surveys of cultural areas.

¹ In 1997 I organised a session for *The 96th Annual Meeting of the American Anthropological Association* held in Washington, DC, entitled ‘Familiar space in language and mind: representations of spatial relationships in Oceania’. The novelty of the subject matter and the enthusiasm of the participants convinced me that the papers presented needed to be brought to a larger audience. After eliciting further contributions from other scholars who could not participate in the AAA session, I proposed the publication of the volume to Pacific Linguistics. The positive response I received from Pacific Linguistics (especially from Andrew Pawley) witnessed to the quality and dedication of the contributors. I want to thank the editorial board and staff at Pacific Linguistics for their support and expertise during the realisation of this project. Each contributor deserves special thanks, especially for putting up with my continuous requests and messages. The comments of one anonymous reviewer were greatly appreciated. Finally, I want to thank all the people of Oceania who made this volume possible. It is to them that I dedicate our collective efforts towards a better understanding of their island worlds.

² Space is one of the favourite metaphors used in much contemporary anthropological discourse (e.g. Wilson & Dirlik, 1995). This book is not about space as a metaphor. A metaphor implies two knowledge domains and some of the content of the first knowledge domain is occasionally used to clarify and/or make it easier to talk about the second knowledge domain. This implies that the first domain must be well known. Consequently, regarding the use of space as a metaphor, the more we know about the specific domain of space, the better we will be able to use it in metaphorical terms. It is the primary goal of this volume to expand our understanding of the knowledge domain of space.

This volume will be mainly of interest to sociocultural and linguistic anthropologists. However, linguists and cognitive psychologists interested in cross-linguistic and cross-cultural research will also be able to profit from its content. Finally, any scholar or layman interested in Oceania will find extensive material to expand his/her knowledge about this cultural area.

2 Space in language, mind and culture

Conceptualising and talking about spatial relationships is a universal characteristic of human beings all over the world. We all need to conceptualise the spatiality of our environment, that is, mentally represent our surroundings as a well defined space that contains a variety of objects standing in particular spatial relationships to one another. Without this capacity we would not be able to move in our environment nor locate objects in it. It is also crucial for all humans to be able to communicate linguistically about this space and these spatial relationships. We all do this so efficiently and effortlessly that we are, most of the time, unaware of the complex mental and linguistic operations we use in this process.

However, there are specific occasions when we do become aware of the complexity of the task we are involved in, that is, representing and speaking about spatial relationships. One of these occasions is communicating long-distance within one language community. Either in writing or on the phone, for example, the whole process of talking about location or movement of objects in space requires our attention in a way that is not done when we talk in a face-to-face encounter. In long-distance communication we become aware, among other things, of perspective-taking before describing the location of an object in a specific environment.

For example, when reporting on the phone or in writing about the position of an object in a room, for instance a chair, we cannot simply state its location in relation to us because the addressee cannot see us. We must indicate a fixed point of reference. In our case it could be the room door. From there, further indications can be supplied to identify the position of the object. 'The chair is to the right of the door from which you enter the room' could be a good example of a sufficiently adequate description.³ All of us make, and still occasionally produce, location descriptions that are utterly confusing for our addressee. However, it usually takes very little to realise how inaccurate we have been, and we immediately search for a more appropriate solution.

Other occasions in which we become aware of the complexity of these tasks are when we communicate with speakers of other languages both in our or their language. In these situations the difficulty lies in the fact that different languages distribute spatial descriptions over different parts of speech. For example, where some languages rely mostly on prepositions, others use mostly nouns, while still others put most of the load on verbs. Habituation due to extensive use of the solution intrinsic to our native language complicates the linguistic encoding of our spatial descriptions (either about location or movement) in the situations including two or more languages.

Finally, the cross-linguistic occasions just indicated are but a subpart of what can be labelled cross-cultural encounters. There are very clear differences between the two types of

³ The description could still be ambiguous because 'the right of the door' could be our right when we are entering the room or the right of a person looking at the door from inside the room while facing the door/exit. The two interpretations would result in an opposite solution for the position of the chair in the room. However, in this case the 'canonical' interpretation in a Western context would usually be the first one.

events, though. In fact, while a linguistic difference may be described as distributional (spatial descriptions distributed differently over parts of speech), I define cultural difference at another level. It is the frequency, quality, and content of the spatial description (not its linguistic expression⁴) that are culturally determined. When, how, and which spatial descriptions one decides to express (linguistically and otherwise) and use more frequently among the possible ones that are universally (often perceptually) available is a cultural decision.

Evidence is being accumulated by research conducted in a variety of cross-linguistic and cross-cultural contexts all over the world (see Bennardo 1996; Hill 1982; Levinson 1996; Ozanne-Rivierre 1997; Pederson 1993, 1995; Pederson & Roelofs 1995; Senft 1997) about the peculiar preferences of some languages and cultures to express spatial relationships in habitual modalities. In other words, some speaking communities, culturally defined, show mental and linguistic preferences in describing spatial relationships.

The research conducted, however, has no regional (that is, Africa, Latin America, Oceania) organisation and scholars often present their findings in isolation.⁵ Even comparative studies tend to ignore the possibility of regional patterns. That is, there is no attempt to look extensively to only one cultural area or any effort to collect evidence at the linguistic level, mental level, and cultural level within one chosen area.

Comparative studies within a specific cultural area should provide the first necessary stage towards any generalisation about universal features of the human mind. Combining data from linguistic, psychological, and ethnographic research must be regarded as the inevitable step to arrive at those preliminary generalisations. Too much research is based on only one type of data⁶ and too many times generalisations about universal characteristics of the human mind are made based only on investigations limited to one specific cultural context (typically Western academia).

This volume of collected works tries to fill this void in the contemporary research on space. Moreover, this work differs profoundly from other works on the subject by linguists and cognitive psychologists because of its cultural and ethnographic component. All the contributions, in fact, embed the discussion and/or analyses of their data in specific cultural contexts. These latter are considered as informative and informing as the specific type of data, either linguistic, psychological, or ethnographic on which the authors are focusing. I will now indicate in some detail the major goals of the volume.

3 Major goals of the volume

The first major goal of this volume is to contribute to the research on space, in particular to the linguistic, mental, and cultural representations of spatial relationships. The data and the

⁴ I acknowledge here the fact that even the specific linguistic distribution can be the result of cultural choices, but choose to leave this controversy aside since it would not add anything to the core of the argument I am trying to make. I only add that a discussion of this controversial point would require a definition of culture within the general architecture of cognition (see Bennardo 1996:20), but it would be superfluous here.

⁵ For a recent volume of works at least topically connected see Bloom, et al. (1996). See also Senft (1997), for a collection of works about the relationship between language and space in Austronesian and Papuan languages.

⁶ For a clear exception see Pederson, et al. (1997).

findings that are introduced represent a new frontier in cross-linguistic and cross-cultural research about this area of inquiry. The methodology employed in the collection of these data is innovative and varied. It consists of sophisticated linguistic analyses, experimental cognitive psychology tests, and accurate interpretations of ethnographic descriptions.

The second goal of the volume is to provide for the first time a survey of the research on space in one specific cultural area, that is, Oceania. The contributions deal with languages and cultures that belong to all three major subdivisions of Oceania: Micronesia, Melanesia, and Polynesia. This volume demonstrates that spatial representations in Oceania are distinctive. The authors draw upon data from linguistic, mental, and cultural representations of spatial relationships. From the ample survey of the area—geographical, cultural, and topical—provided by the contributions emerges a picture of spatial representations that may be defined as specifically ‘Oceanic’.

The third and final goal of the volume is to suggest strongly within the research on space the value of cross-linguistic and cross-cultural research as well as of cultural area studies. It is impossible to conceive of investigating such an abstract realm as that of the representations of spatial relationships without comparing data from a variety of languages and cultures. Universality issues come immediately to mind. It is much safer and definitely more scientifically sound to provide answers that arise from a variety of linguistic and cultural contexts.

At the same time, it is appropriate not to generalise from results obtained in a group of related—linguistically and culturally—contexts to the whole of human experience. Cultural area studies such as the one proposed here provide the backbone for further comparison across regions around the world. Future researchers will benefit from the work contained in the present volume when planning and/or conducting extensive comparative research across cultural areas.

Finally, this volume can be a point of reference for future research on space and the representations of spatial relationships by scholars working in Oceania. The foundations are laid for new and exciting research projects that would broaden the relevant but unavoidably limited data that are presented. The discourse started here is so significant that it calls for a necessary continuation within the Oceanic scholarly community.

4 Contents and subdivisions of the volume

After the general introduction that opens the volume, three sections will follow entitled ‘Language and space’, ‘Space in mind’, and ‘Space and culture’. A conclusion entitled ‘Spatial representations of island worlds’ will close the volume.

The first section, ‘Language and space’, contains four contributions that privilege analyses of linguistic data. The extensive data and the insightful analyses presented immediately immerse the reader in the peculiarity of the spatial world of Oceania. The authors investigate the distribution of spatial descriptions over the parts of speech in various languages of the Pacific. A common finding characterises and unifies these four contributions. They all highlight the privileged status of nouns over other parts of speech as a major Oceanic feature in the linguistic representations of spatial relationships.

The section starts with Florey and Kelly’s survey of the linguistic representations of location and movement in Alune, an Austronesian language (Central Eastern Malayo-Polynesian). I decided to include this article even though Alune is spoken in the island of Seram in Eastern Indonesia, geographically not considered to be in Oceania. This language,

in fact, belongs to a group that is genetically related to the Oceanic ones and it is spoken in a geographical area that could be considered the 'motherland' for Oceanic languages and cultures.

Florey and Kelly's major assumption is that 'idealised' uses of spatial referents can be different from their actual uses in discourse. They first introduce the 'key components of the Alune spatial reference system'. Then, they analyse these components as they are used in discourse. The results of the analyses highlight a variety of phenomena such as the 'use of locatives to mark movement'. The authors finally suggest that social factors—'greater shared knowledge within the community'—are the explanatory reasons behind the phenomena that they discovered in their discourse data.

We enter the 'proper' Oceanic world with the article by Hyslop on spatial reference in Ambae, a language spoken in the island of Ambae in the north of Vanuatu. Hyslop investigates a set of directionals and the way they realise linguistically a variety of perspective-takings or frames of reference. Uses of the absolute frame of reference in Ambae differ from canonical uses in Western contexts. Finally, the author investigates a 'set of relational location nouns' that realise an intrinsic frame of reference.

With Sperlich's article on Niuean space we land in the Polynesian motherland. Sperlich's discussion of Niuean spatial nouns is based on a comparison with Tongan spatial nouns as described by Bennardo (2000). Thus, the two articles taken together provide an overall treatment of the subject for the Tongic branch of the Polynesian languages. Similarities and differences between these two very close languages are indicative of the salience of this typical Polynesian lexemic phenomenon.

The fourth article by Cook takes us into one of the three corners of the Polynesian world, Hawai'i. He discusses the distinctive grammatical behaviour of Hawaiian 'locative nouns'. Cook shows how these nouns are differentially case-marked as either placenames, personal names, or common nouns. Finally, he finds support for his grammatical analysis in a brief exploration of the contemporary Hawaiian music scene. This move, as well as others to be found in the previous articles, represents a clear indication of the specific quality that characterises the contributions to this volume. The sophisticated linguistics' analyses introduced never fail to consider the linguistic phenomena investigated within their rich socio-cultural contexts.

The second section, 'Space in mind', contains three contributions. Their focus is on the way in which Oceanic people mentally represent spatial relationships. The authors introduce important hypotheses about specific characteristics of the mental representations of spatial relationships in Oceania. Palmer's article starts the section by surveying a variety of Oceanic languages. He describes how these languages grammaticalise an absolute spatial reference system (or frame of reference). He proceeds to show how perceptually salient characteristics of the environment seem to correlate with the grammaticalisation of this specific (absolute) system over the other possible ones. His conclusion includes possible implications of these phenomena for the structure of cognition. He proposes that salient input from perception can have consequences for the linguistic module only if spatial conceptualisation represents an overarching area between the two.

The second contribution by Bennardo, instead of spanning over a number of Oceanic contexts, focuses on a specific one—the Tongan linguistic and cultural milieu. Tongan linguistic, psychological, and ethnographic data allow the author to obtain an insight into some distinctive features of the representations of spatial relationships in Tonga. Bennardo argues that Tongans privilege a 'radial' frame of reference in their representations of spatial

relationships. He also shows that this 'radial' frame of reference is a subtype of the absolute one. Since features of Tongan spatial cognition are reflected into both linguistic and sociocultural behaviour, the author suggests that spatial cognition is accessible to and informs both language and culture. This suggestion is in line with the conclusions of the previous article in this second section.

The third contribution by Lehman and Herdrich focuses on the basic conceptual form of the Oceanic mental representations of space. They first discuss two systems of conceptions of spatiality: 'point field' and 'bound container'. Then, the two authors introduce a variety of Samoan cultural and linguistic data. Supported by the empirical evidence provided by the Samoan data, Lehman and Herdrich reach the conclusion that Samoans conceptualise space by using a point-field system.

Clear links can be established between these three contributions. The 'point field' system of conceptualising space by Samoans correlates highly with the 'radial' frame of reference preferably used by Tongans. Both phenomena correlate with the generalised grammaticalisation of the various subtypes of the absolute frame of reference in the Melanesian languages surveyed by Palmer. In fact, the 'point field' system and the 'radial' frame of reference share substantial, constitutive conceptual features with the absolute frame of reference.

In the third section, 'Space and culture', the focus shifts to ethnographic analyses with linguistic data as their background. The aim of these discussions is to describe the intricate ways in which various cultural and conceptual domains interact in the linguistic and physical expressions of spatial relations.

Keating argues that the places that people occupy in space during culturally salient, social activities, as well as the way in which they interact in that space, is highly significant in the construction and maintenance of social inequalities in Pohnpei. Historicised physical spaces are 'offices' of the hierarchical social structure. Some people occupy them to demonstrate their status, others negotiate them—linguistically and physically—in a continuous attempt to better their positions.

Toren argues that Fijian 'space-time coordinates' contribute to a specific 'Fijian subjectivity'. Gender, seniority, and morality are projected onto and expressed by spatial language. Toren discusses Fijian physical and social space—places that people occupy during their daily life (for example the interior of the house), socially salient events (for instance village meetings), as well as the spatial relationships between the houses of a village.

Allen's article—the last of this section—focuses on architectural language in Samoan culture. A parallel is drawn between the physical meanings of the terms used to describe the architectural features of the Samoan house and those same terms used to indicate social relationships. Spatial distinctions within the house are realised by a set of words that are also used to express relationships between social units, such as individuals, families, and villages.

The volume closes with Keller's contribution, 'Spatial representations of island worlds'. In it, Keller addresses the cultural and conceptual constraints on spatial relations as they are demonstrated in Oceanic systems of thought and practice. Regional patterns are identified against a background of universal possibilities. Variations within the culture area are situated in the context of regional similarities. In her concluding remarks, Keller also explores the potential of the unique interdisciplinary approaches that characterise this volume, namely, the integration of ethnographic, psychological, and linguistic problems and methods.

5 Audience and readership

This volume is mainly of interest to sociocultural and linguistic anthropologists, and cognitive psychologists. Particular attention was devoted to make the volume accessible to both undergraduate and graduate students. In this volume, linguists, anthropologists, and psychologists alike will be able to find data, ideas, and suggestions that can enrich and widen their understanding of the relationships between language, culture, and mind. In addition, both cognitive anthropologists and Oceanists will be able to expand their knowledge of their subdiscipline and/or of their geographical/cultural area.

However, the readership of this volume is not limited to these scholars. Cognitive scientists interested in cross-linguistic and cross-cultural research can also profit from its content. In fact, the methodology, the data, and the findings presented in the volume represent challenging material for researchers investigating issues of representations of spatial relationships. Finally, any scholar or layman interested in Oceania and its fascinating cultures will discover that the reading of this book provides a substantial step towards a better understanding of Oceanic people.

By way of closing, I want to add that the research conducted on space and its relationships to language and mind is one of the most fascinating areas of research of this decade. Much research has been conducted and revealing findings have been published, but significant new questions have arisen and remain unanswered. I hope that this volume adds a piece to the puzzle that we are trying to put together.

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Section One

‘Language and space’

2 *Spatial reference in Alune*

MARGARET FLOREY AND BARBARA F. KELLY

1 Introduction¹

This paper examines the system of spatial reference in an Austronesian language, Alune, which is spoken on Seram island in eastern Indonesia. Cross-linguistic studies of spatial orientation and spatial terms have shown that languages do not divide space in the same way (Haviland 1979; Levinson 1991, 1992). Spatial orientation is often expressed in relation to a set of objective reference points relative to locations in a given space. These reference points may be presented in relation to ego or may be absolute and based upon:

- a system of cardinal edges (Levinson 1992);
- celestial reference points as marked by the sun (Diamond 1993);
- wind direction (Bowden 1992);
- or monsoons (Blust 1997), along with a variety of other fixed landmarks and environmental phenomena such as toward sea and toward land (Adelaar 1997).

Typical descriptions of spatial systems in the literature indicate relatively clear spatial distinctions which appear to be used in systematic ways within languages. For example, Bowden (1997) notes that the Taba (Makian Dalam) directional system consists of three distinct but partially overlapping scalar levels. These levels are within a house or neighbourhood, on or nearby Makian island, or in the wider world. This breakdown is similar to the types of spatial categories we find in other Austronesian languages, and speakers utilise the spatial system at each of these levels.

¹ Research on which this paper is based was undertaken by Florey in the Alune villages of Lohiatala and Lohiasapalewa in five field seasons between 1988 and 1998. Research has been supported by the Social Science Research Council and the American Council of Learned Societies Joint Committee on Southeast Asia (with funding provided by the Ford Foundation); the Australian Research Council; and the Wenner-Gren Foundation for Anthropological Research. Thanks are particularly due to Michael Ewing for his careful reading and extensive comments on earlier drafts, and to Jennifer Coates for her helpful comments while Florey was based at Roehampton Institute in November 1997 on study leave. All errors remain the responsibility of the authors.

The literature indicates that the use of spatial systems in some Austronesian languages is complex and dependent upon a knowledge of environmental features (cf. the papers contained in Senft 1997). However, the majority of studies have focused upon elicited data with few examining the ways in which spatial terms are used in natural discourse. It is likely that elicited data or responses given in tests or experimental situations will be closer to a model of idealised usage than those which occur in discourse. Descriptions based on such data may conceal the range of functions filled by spatial referents. The present paper aims to address this issue by first describing the idealised use of the directional system of Alune and then examining the use of spatial referents in discourse data. In order to undertake this analysis we draw primarily on a database of thirty-one texts recorded with fluent speakers of Alune in the inland village of Lohiasapalewa.

In §2, four zones of spatial reference are described, which gradually move beyond the Alune world and increase in distance from the realm of ego's daily experience. Key components of the Alune spatial reference system which are analysed in this section include a set of directionals, a locative (which also serves aspectual and temporal functions), an ablative, allative, and a deictic. Certain prescriptive features, from a speaker's perspective, are described. The third section then analyses discourse data in order to compare the folk-linguistic perspective of spatial reference with an account based on actual usage. A number of interesting features emerge from this analysis of the spatial system, including the use of eight syntactic constructions to denote spatial reference, the use of locatives to mark movement rather than location, and the use of directionals to mark location rather than movement. In §4 we seek explanations for these features, and analyse both syntactic and discourse-functional factors. The discourse functional factors include contextualisation, clarification, and disambiguation of locations and participants in a narrative. We suggest that use of the locative to denote movement has arisen through social change which has resulted in greater shared knowledge within the community and a correspondingly decreased need to specify the direction of movement to some sites in village territory.

1.1 Linguistic setting

Alune is an Austronesian language which is spoken in twenty-six villages in western Seram island, in the central Maluku region of eastern Indonesia. Collins (1983) locates Alune in the Proto East Central Maluku subgroup of Central Eastern Malayo-Polynesian. There are three dialects of Alune—north, central, and south—distinguishable principally by phonetic features and by some lexical differences. The north dialect is the most widely spoken, while the central Alune dialect is spoken in six villages, and the south dialect is now known by only a few elderly speakers in Kairatu (1983:40). The linguistic vitality of Alune varies between the settings in which it is spoken: the language remains strong in villages which are still located in the mountainous interior, however language shift to Malay (Ambonese Malay and Indonesian) is clearly occurring in villages which have relocated to coastal Seram at some time during this century.

The research on which this paper is based was undertaken in three Alune-speaking villages: Lohiasapalewa, Lohiatata, and Murmaten. Lohiasapalewa, a central dialect village located in the mountainous interior of western Seram, is linguistically quite conservative. Although the regional *lingua franca*, Ambonese Malay, is now beginning to affect patterns of language use in inland Alune villages, use of Alune persists through all generations in Lohiasapalewa (Florey 1997).

Lohiatala is the daughter village of Lohiasapalewa. These two contemporary villages were originally one village, Lohia, located on the present-day site of Lohiasapalewa. In the mid-nineteenth century, internal conflict led to the departure of a break-away group who formed a new village approximately 20 kilometres to the south—now known as Lohiatala. In the 1950s, the people of Lohiatala were forcibly relocated to a site much closer to the south coast of Seram. Ambonese Malay is the first language of all Lohiatala villagers aged approximately thirty years and younger. People in this age group no longer speak Alune, though most retain some receptive skills. They are rarely addressed in Alune and if they are, they always respond in Malay (Florey 1990, 1991, 1993).

Murnaten is a north-dialect village which has been located on the north coast of Seram since the beginning of this century. Its coastal location and long-standing pattern of trade with non-Alune peoples has had a great impact on patterns of language use. Ambonese Malay has been spoken as a *lingua franca* in the village for most of the 20th century and is the first language of all people in the village aged approximately fifty years and younger. Like Lohiatala, people aged thirty years or younger retain some receptive skills but no longer speak Alune.

1.2 Database

The principal data source for the analysis of spatial reference comprises thirty-one texts recorded with speakers aged seventeen years or older in Lohiasapalewa. The texts (including both monologues and conversational data) total 1412 clauses. They cover a wide range of topics, including accounts of incidents of local interest which occurred in the village, discussions of current local events, descriptions of daily activities (gardening, cooking and so on), several folk tales, and historical narratives or origin myths. In the final section, we draw upon two further sources of data to analyse language change in the system of spatial reference in addition to the database of adult texts from Lohiasapalewa. These data are twelve texts recorded with children in Lohiasapalewa and the results of language proficiency tests undertaken in the villages of Lohiasapalewa, Lohiatala, and Murnaten.

2 Spatial reference in Alune

Spatial reference incorporates reference to location, to movement from a source location, movement to a goal location, and the path of movement. Key components of the Alune spatial reference system which are analysed in this section include a set of directionals, a locative (which also serves aspectual and temporal functions), an ablative and allative preposition, and a deictic. The Alune system of spatial reference is oriented around the location of ego, the location of other actors, geographical features of the local landscape, and space at various distances from the speaker or other relevant referent. There is no interrelationship between spatial orientation and the position of the sun (sunrise, sunset), the direction of winds, or cardinal directions.

2.1 Directionals

A set of six directionals is used to mark movement from a source (location) to a goal (destination). The six directionals have both full lexical forms (with some dialectal variants) and clitic forms, as set out in Table 1 below. The full lexical forms are the most frequently used, and clitic forms are restricted to use with the allative preposition (§2.4 below). Included in the last column of Table 1 are innovative forms used by younger fluent speakers or semi-speakers of Alune. The central dialect full form of each directional is used as the citation form throughout this paper.

Table 1: Alune directionals

Full form: central dialect	Full form: north dialect	Clitic form	Innovative forms
<i>mlau</i>	<i>ndau</i>	<i>-lau</i>	<i>mau, nau</i>
<i>nda</i>	<i>nda</i>	<i>-ra</i>	<i>da, ra</i>
<i>mlete</i>	<i>ndete</i>	<i>-lete</i>	<i>mnete, nete, nde</i>
<i>mpe</i>	<i>mpe</i>	<i>-pe</i>	<i>pe</i>
<i>ndi</i>	<i>ndi</i>	<i>-ri</i>	<i>di, ri</i>
<i>mpai</i>	<i>mpai</i>	<i>-pai</i>	<i>pai</i>

Syntactically, the full lexical form of the directionals may function as prepositions, as in example (1) below, or as nominals, as in (2) below.²

- (1) *Au 'eu mpai mlinu.*
 1sg go DIR garden
 'I'm going to the garden.'
 (MA: LStest6)³

- (2) *(E)le('i) imi leu bei mpe-re imi pusu-mi sui*
 then 2pl return.home from DIR-DET 2pl all-2pl chase
asu-re pi-be batu ale dua-mu-o?
 dog-DET or-COMP only 2sg alone-2sg-Q
 'Then when you all were coming home from down there did all of you follow the dogs or only you?'
 (YM: Cl.11–12)⁴

² Abbreviations used in this paper are:

AI – alienable possession, ALL – Allative, ASP – aspect, CAUS – causative, CL. – clause, COMP – complementiser, DEI – deictic, DET – determiner, DIR – directional, DM – discourse particle, Exc – exclusive pronoun, Gen – genitive, H – human, Inal – inalienable possession, LOC – locative, NEG – negative, NH – non-human, pl – plural, Q – question, REDUP – reduplication, sg – singular, Tr – valency-increasing suffix

³ A limited number of sentence examples have been drawn from test data. These are coded as follows: speaker's initials followed by the initials of the village and the relevant number of the test item.

⁴ Sentence examples are coded as follows: speaker's initials followed by the relevant clause number/s within the text.

The principal domain of usage of the six directionals is for spatial reference within a zone of local space. This is the zone in which ego dwells—the realm of everyday interactions and experiences. The village is the prototypical dwelling location of Alune people and the zone of local space typically includes the home, the village residential site, the wider village territory (including primary and secondary forest and cultivated land), and villages roughly within a day's travel with which the villagers have regular contact (for trade, educational, or ritual purposes). Figure 1 illustrates the zone of local space for the villagers of Lohiasapalewa. This zone, which has a radius of approximately 30 kilometres, typically remains largely within Alune territory, *albeit* including that occupied by other Alune villages. It includes some non-Alune territory near the coast and the town of Taniwel, the regional administrative centre which contains government and military offices, the marketplace, a junior high school, and the boat harbour.

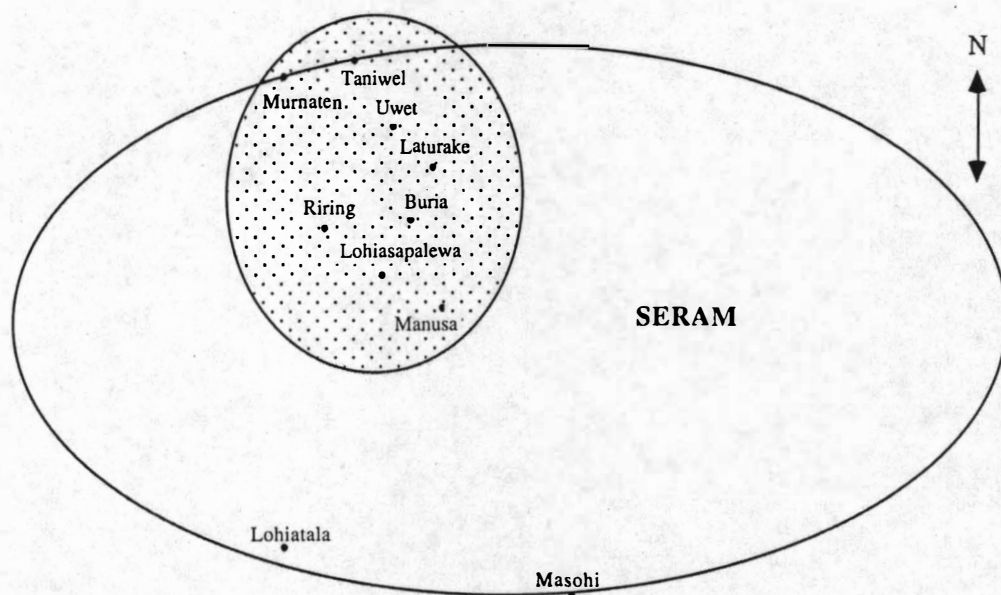


Figure 1: The zone of local space for the village of Lohiasapalewa

In contemporary society, Alune people are more mobile and may live away from the village for short periods for educational or employment purposes. Because it is egocentric, the system of spatial reference for local space moves with ego: a villager dwelling in Taniwel while attending secondary school would determine local spatial reference by taking into account features of the local environment.

Within local space, the six directionals are mapped onto three planes: seawards/inland (*mlau/nda*), upwards/downwards (*mlete/mpe*), and opposing directions on the transverse axis (*ndi/mpai*). These planes are mapped in Figure 2, below.

Mlau. The directional, *mlau*, denotes the direction towards the sea, downstream. In the context of the physical geography of Seram, movement seawards also involves movement downwards from the mountains. However, the salient feature of this plane is the direction seawards versus inland, rather than elevation.

- (3) *Au 'wali-a lua (e)si-bei mlau Bulie.*
 1sg same.sex.sibling-PL two 3plH-from DIR Buria
 'My two brothers came from Buria.'
 (GT: Cl.48)

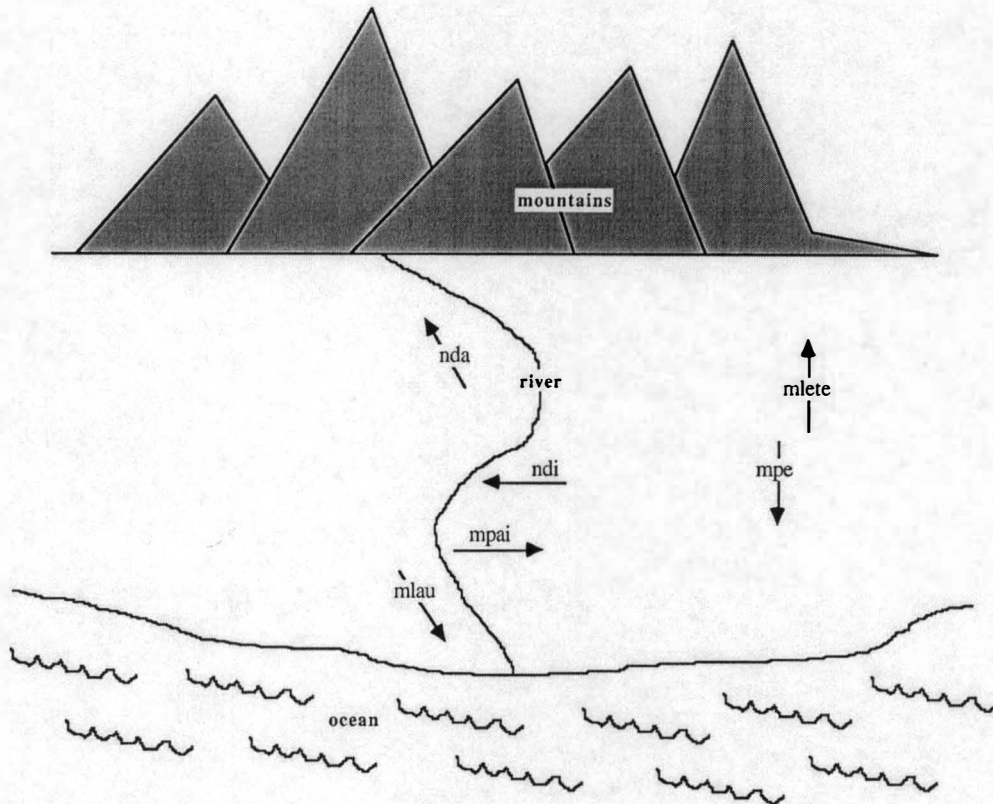


Figure 2: The Alune directional system in local space

Nda. The directional, *nda*, denotes the direction inland, upstream: that is, the opposing direction to *mleu*.

- (4) *Ami leu lo-ra nda lusune.*
 1plExc return.home to-DIR DIR orchard
 'We returned over there, to the orchard.'
 (MM: Cl.17)

Mlete. The directional, *mlete*, is used to denote upwards elevation.

- (5) *Lisona (e)i-sa mlete luma.*
 Lisona 3sgH-climb DIR house
 'Lisona climbed up to the house.'
 (NK: Cl.134)

Mpe. The directional, *mpe*, denotes downward elevation, the opposing direction to *mlete*.

- (6) *Ami 'eu a-beli cengkeh mpe Tani'we.*
 1plExc go CAUS-sell clove DIR Taniwel
 'We went to sell clove down in Taniwel.'
 (YM: Cl.11)

Ndi. The directional, *ndi*, denotes direction on the transverse plane, parallel to the shoreline and the mountain range: relative to the speaker's position, the mountains/upstream are on the right side, and the ocean/downstream are on the left.

- (7) *Au leu le 'wetele dani pene,*
 1sg return.home because child cry already
(e)le('i) au leu bei ndi lo-mei.
 then 1sg return.home from DIR to-LOC
 'I went home because the children were crying, then I came home here from over there.'
 (SML: Cl.8)

Mpai. The directional, *mpai*, denotes direction on the transverse plane, parallel to the shoreline and the mountain range, in the opposite direction to *ndi*: that is, relative to the speaker's position, the mountains/upstream are on the left side, the ocean/downstream on the right.

- (8) *Au 'eu mpai mlinu.*
 1sg go DIR garden
 'I'm going to the garden.'
 (MA: LStest6)

2.2 Beyond local space

As previously mentioned, the six directionals outlined above are used within the zone of daily experience, which we will refer to as zone 1. Beyond the zone of daily experience, the world is divided conceptually into three more zones according to relative distance from the zone in which ego dwells. Three directionals are used to denote space towards or within these three zones. These directionals are homophonous with three of the directionals used to denote local space in zone 1. Each of the zones is described and illustrated below.

2.2.1 Zone 2: within Seram beyond zone 1

The directional, *ndi*, is used for spatial reference to places within Seram which are beyond zone 1: that is, beyond the daily experience of the speaker. Figure 3 illustrates zones 1 (local space) and 2 (Seram) for the villagers in the south coastal village of Lohiatata.

From Lohiatata, Taniwel is distantly located across the mountain range of central Seram and is thus beyond the realm of daily experience denoted by zone 1. Speakers in Lohiatata refer to Taniwel using the directional *ndi* to denote that it is conceptually within zone 2.

- (9) *Au 'eu ndi Tani'wele abeli-e tema.*
 1sg go DIR Taniwel sell-Tr banana
 'I went to Taniwel to sell bananas.'
 (SM: LTtest89)

This usage contrasts with example (6) above, in which the choice of the directional *mpe* by a Lohiasapalewa speaker in reference to Taniwel indicates that, for villagers in Lohiasapalewa, Taniwel is within the zone of local space.

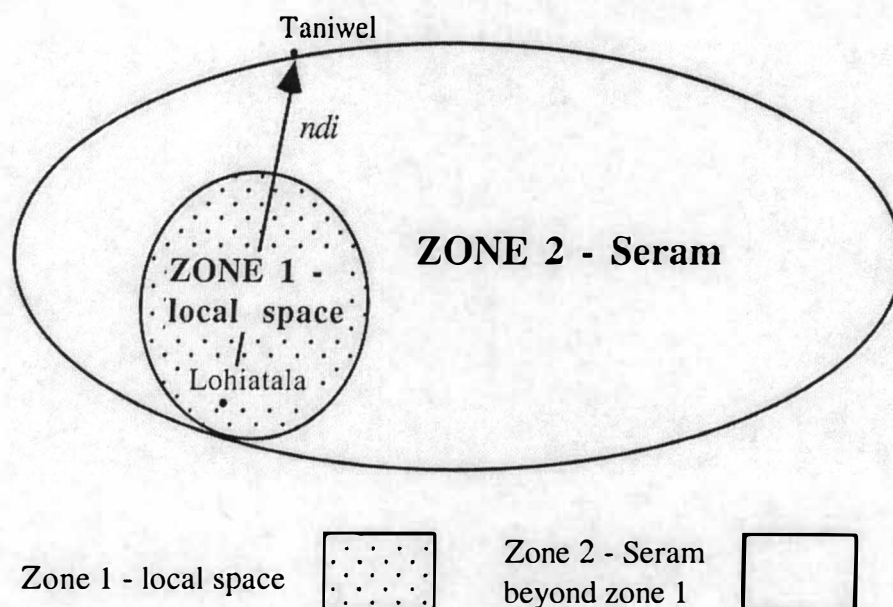


Figure 3: Zone 2: Seram beyond zone 1

2.2.2 Zone 3: Central Maluku beyond Seram

The directional, *mpai*, is used for spatial reference to locations which are beyond Seram yet within Maluku. This zone includes the regional capital of Ambon city, located on Ambon island to the south of Seram. Although distant to Alune villages, Ambon is known to the villagers either through personal experience or, more commonly, through the narratives and songs of the people who have travelled to Ambon (teachers, the village headman, and so forth). Some young people now travel to Ambon for upper-secondary education. Speakers from all Alune villages, regardless of their village location on Seram, refer to Ambon with the directional, *mpai*.

- (10) *Ami leu bei mpai Ambon lo-mei.*
 1plExc return.home from DIR Ambon to-LOC
 'We came home here from Ambon.'
 (ES: Cl.6)

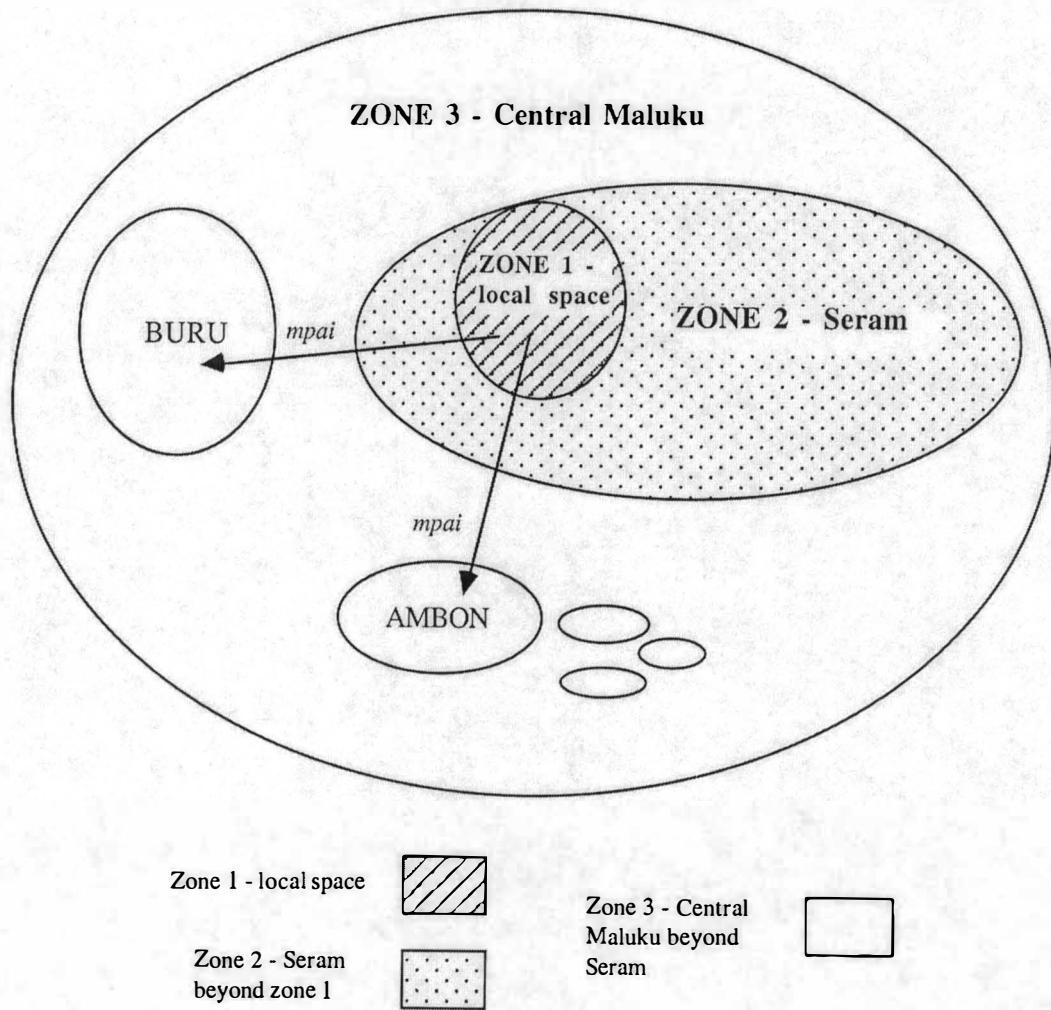


Figure 4: Zone 3: Central Maluku beyond Seram

2.2.3 Zone 4: the world beyond Maluku

The directional, *mlete*, is used for spatial reference to locations beyond Maluku. For example, it is used by all Alune people, regardless of their village location on Seram, to refer to Java or to Australia.

- (11) (E)i-'eu *mpai lo-lete* Jakarta (e)i-leu *musa*.
 3sgH-go DIR to-DIR Jakarta 3sgH-return.home not.yet
 'She went to Jakarta and hasn't come home yet.'
 (ES: Cl.14)

In such a locally defined world, there are very few examples of reference to zone 4 in the database. Example (11) above is interesting because the speaker uses two consecutive directionals to denote Jakarta: *mpai lo-lete*. Two explanations are possible: she may be referring to movement of the actor first to Ambon (in zone 3), which would require *mpai*, and then onwards to Jakarta (in zone 4), which requires *mlete*. Alternatively, the speaker may

have chosen *mpai* to denote the distant spatial zone beyond Seram, and then corrected to *mlete* to denote the greater distance beyond Maluku.

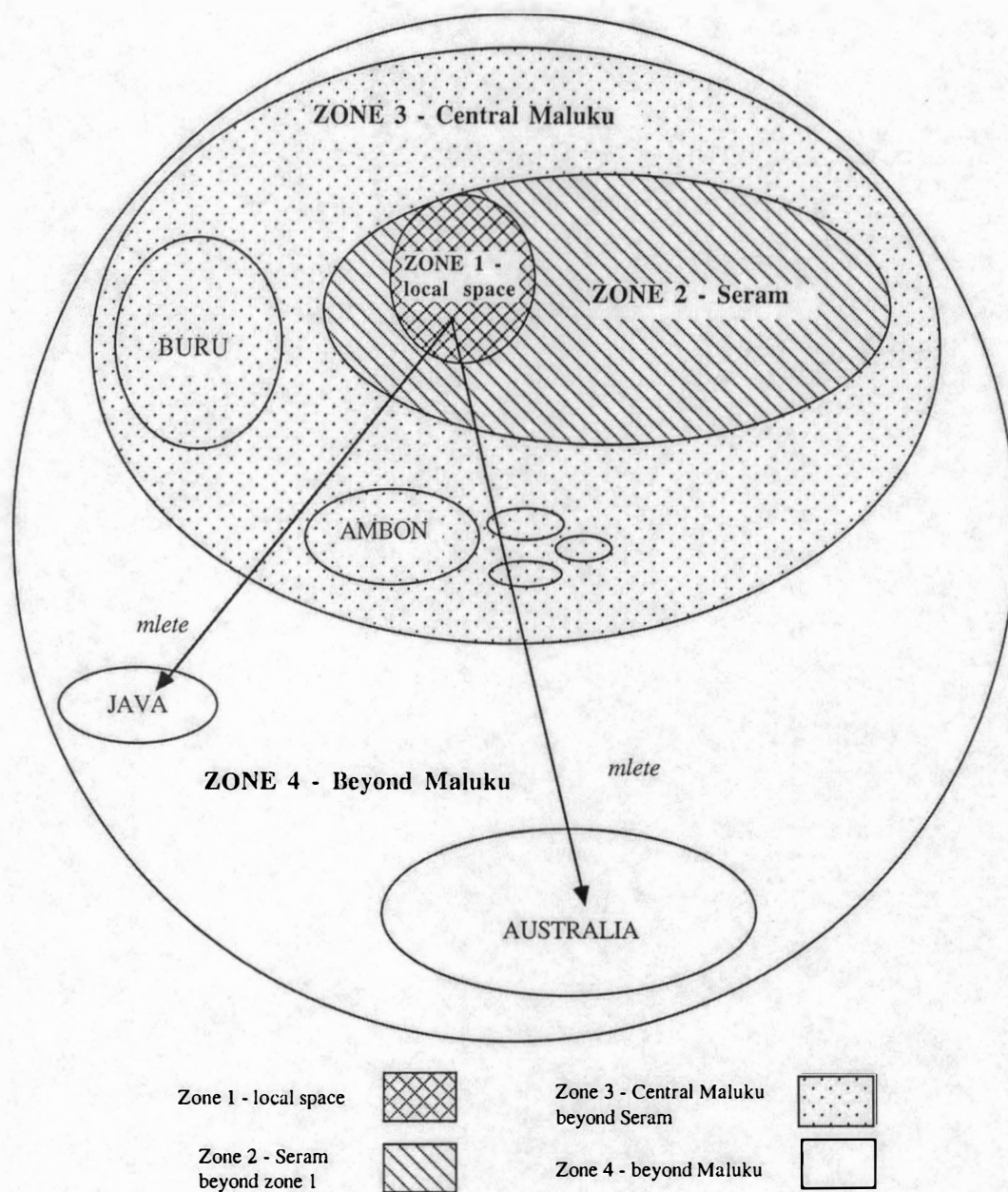


Figure 5: Zone 4: beyond Maluku

2.3 Locative

The system of spatial reference also includes a locative, *mei*, which is commonly used together with a noun phrase to map location in local space.

- (12) ((E)n)i-nane Benselina po (e)i-meī hena mo.
 3sgHGenAI-name Benselina but 3sgH-LOC village NEG
 'Her name is Benselina but she isn't in the village.'
 (ES: Cl.13)

The locative, *mei*, also occurs in a preverbal position to mark progressive aspect.

- (13) Beta-ni *mei dani meije, dani ita* 'petu.
 opposite.sex.sibling-3sgHGenInal ASP cry this cry until dark
 'Her brother was crying like this, crying until nightfall.'
 (ES: Cl.51)

Within local space, location can also be specified using the set of directionals.

- (14) Lua-si sasi-'e u'ui lua *mlete mlinu ului*.
 two-3plH contract-Tr seedling two DIR garden head
 'The two of them made a pact with two seedlings at the top of the garden.'
 (ATK: Cl.124)

2.4 Allative

The system of spatial reference includes a preposition, *lo('o)*, which serves an allative function indicating movement along a path towards a goal.

- (15) (E)i-lepa *lo'o* Lisona be su'a (e)i-'ai po
 3sgH-speak to Lisona COMP like 3sgH-marry but
Lisona (e)i-su'a mo.
 Lisona 3sgH-like NEG
 'He said to Lisona that he'd like her to marry but Lisona didn't want to.'
 (NK: Cl.3)

The allative, *lo-*, may be cliticised to the clitic form of the six directionals (given in Table 1 above). The primary function of *lo-* when cliticised to a directional (henceforth abbreviated *lo-DIR*) is to focus on the path of movement rather than the source location or the goal location of the movement. Proficient speakers of Alune discussing prescriptive use of this construction assert that it should not, therefore, be used in conjunction with a noun phrase to further specify the goal. Examples (16)–(18) illustrate 'correct' usage (from a folk-linguistic perspective) of the *lo-DIR* construction.

- (16) Leu bei mpe 'wele *lo-lete* yo ama,
 return.home from DIR water to-DIR DM father
(e)i-ono apale mere.
 3sgH-do pig that
 'We returned up there from down at the river and father, he was preparing that pig.'
 (ES: Cl.40–41)

- (17) (E)le('i) au bala-'u 'ila bei ai telai-je (e)le('i)
 then 1sg hand-1sgGenInal free from tree middle-DET then
 au tetu lo-pe.
 1sg fall to-DIR
 'Then my hand slipped from the tree and I fell downwards.'
 (YM: Cl.27)

- (18) Apale e-betu bei au (e)le('i) e-sisa bei au lo-pai.
 pig 3sgNH-get.up from 1sg then 3sgNH-move from 1sg to-DIR
 'The pig got up from me then it moved over there away from me.'
 (YM: Cl.37-38)

The allative, *lo-*, may be cliticised to the locative *mei* to focus on the path of movement from a given source towards the location of the speaker: *lo-mei* 'to here'.⁵

- (19) Ami leu bei mpai Ambon lo-mei.
 1plExc return.home from DIR Ambon to-LOC
 'We came home here from Ambon.'
 (ES: Cl.6)

2.5 Ablative

The system of spatial reference includes a preposition, *bei*, which serves an ablative function indicating movement from a source.

- (20) (E)i-mei selu au 'weini mei sidi bei batu-re.
 3sgH-ASP see fire smoke LOC outside from stone-DET
 'He saw smoke coming out from the stone.'
 (ATK: Cl. 159)

The preposition, *bei*, may be affixed to an enclitic pronoun. It does not occur with the clitic forms of the directionals.

- (21) (E)i-leu bei-(n)i mei hena.
 3sgH-return.home from-3sgH LOC village
 'He returned home from where she was (lit. from her) to the village.'
 (NK: Cl.24)

⁵ The spatial term *lo-mei* also serves a temporal function.

Au bita pia 'ena biaya-a h'ola.
 1sg pound sago for expense-PL school

Lo-mei ujian pela, au 'u=h'ola mpai Ambone.
 to-LOC exam finish 1sg 1sgGenAl=school DIR Ambon
 'I processed sago (to pay) school expenses. After the exam, I went to school in Ambon.'
 (GT: Cl. 42-44)

2.6 Deictic *ete*

A further feature of the system of spatial reference is the deictic marker, *ete*, indicating 'over there in that direction', which can occur with each of the directionals.

- (22) *Ho'o imi ntulu ete-mlau-re 'ena 'inu*
 therefore 2pl sleep **DEI-DIR-DET** in.order.to drink
tuae-le piseu?
 palm.wine-DET uncertainty
 'So you all slept over there seawards to drink some palm wine or what?'
 (MK: Cl.25–26)

If the actual direction is unspecified or unknown to the speaker either of the two directionals on the transverse plane (*ndi* or *mpai*) may be used with *ete* to denote 'over there'.

- (23) *Ho'o ete-ndi-re a-'eri-'e sarei?*
 therefore **DEI-DIR-DET** 2sg-work-Tr what
 'So what work did you do over there?'
 (FS: Cl.28)

This pattern was confirmed in an item on a language proficiency test (discussed further in §5 below), in which respondents were asked to translate into Alune the Ambonese Malay sentence *Ada ikang banyak di sana* 'There are many fish over there'. The direction 'over there' was unspecified, and respondents translated it with either *ete-ndi* or *ete-mpai* with 65 per cent of respondents choosing the latter.

- (24) *Iane ete-ndi-de bo'ala.*
 fish **DEI-DIR-DET** many
 'There are many fish over there.'
 (MM: LStest80)
- (25) *Ete-mpai-je iane bokala.*
DEI-DIR-DET fish many
 'There are many fish over there.'
 (JS: LStest80)

The contrast between 'here' and 'there' is also marked by *ete* in conjunction with the deictic pronoun 'this' and 'that'.

- (26) *Au due ete-meije ta'wali pene'a.*
 1sg live **DEI-this** long already
 'I've already lived here a long time.'
 (MM: LStest60)
- (27) *Dulu-'e ielu mere ete-mere ne'a.*
 lower-Tr things that **DEI-that** just
 'Just put those things down there.'
 (AKM: LStest90)

2.7 Summary

In this section we have shown that, conceptually, the Alune system of spatial reference divides the world into four spatial zones. Zone 1 is the zone of local space in which everyday interactions and experiences occur. Zone 2 is within Seram but beyond the bounds of everyday experience. Zone 3 is within Maluku but beyond Seram, and zone 4 is the world beyond Maluku. As summarised in Table 2 below, 6 directionals are used to denote spatial reference in zone 1, while only 1 directional is used to denote spatial reference in each of zones 2–4. The system of spatial reference also includes the locative, *mei*, an allative, *lo'o*, an ablative, *bei*, and a deictic, *ete*.

Table 2: Use of directionals within spatial zones

Zone 1	Zone 2	Zone 3	Zone 4
<i>mlau</i> <i>nda</i> <i>mlete</i> <i>mpe</i> <i>mpai</i> <i>ndi</i>	 <i>ndi</i>	 <i>mpai</i>	 <i>mlete</i>

In this section, our analysis has drawn on folk-linguistic representations of the spatial reference system. From this perspective, the directionals are used to denote movement towards a goal and the locative is used to denote a location. The allative may be cliticised to a directional, but folk-linguistic prescriptive usage requires that such constructions may not be followed by a noun phrase. In the following section we look at the actual syntactic structures which occur in discourse to denote spatial reference.

3 Directionals and locatives in discourse

Ozanne-Rivierre points out that spatial reference is so important in the languages of New Caledonia that 'oral texts can often only be properly understood when the spatial context of utterance is precisely known' (1997:84). This is clearly the case in Alune: in the database of 31 adult texts, occurrences of spatial reference were found in almost 25 per cent of the 1412 clauses in the adult texts recorded in Lohiasapalewa. The 350 occurrences consist of 209 directionals and 141 locatives.

The idealised folk-linguistic description of the system of spatial reference leads us to understand that directionals are used to denote the direction of movement or to focus on the path of movement, and that the locative, *mei*, is used to mark source or location. However, analysis of the 350 occurrences of Alune spatial referents in the text database reveals a more complex system. The database revealed 8 syntactic constructions containing a directional and/or the locative. These constructions may be used for spatial reference to each of the 4 spatial zones. Further, the directionals are used extensively to mark source or location, and the locative is used to mark movement. This analysis leads us to question why such a wide range of constructions exists and what discourse functions distinguish them. In this section

we describe the 8 constructions and their relative frequency. In §4 we will then look at functional motivations for the proliferation of constructions.

The principal features which differentiate the eight constructions are:

- whether the spatial referent is a directional or the locative;
- whether or not a noun phrase co-occurs with the spatial referent to contextualise the location, the source, or ultimate goal of the movement;
- whether the allative preposition *lo-* 'towards' co-occurs with a spatial referent—the locative or the clitic form of a directional;
- whether a spatial referent is used to denote movement or location.

3.1 Spatial reference denoted with directionals

Each of the four constructions using a directional to denote spatial reference is described in §3.1.1–§3.1.4 below. The analysis of each construction is subdivided into two categories which differentiate it functionally according to whether the construction is used to denote movement or location.

3.1.1 Directional with NP

The most common use of a directional in the database consists of a directional used together with a noun phrase. There are 95 occurrences of this construction, 36 of which denote movement towards a goal or movement from a source and 59 of which specify a location.

- a) **Movement.** The following sentence exemplifies the use of a directional together with a noun phrase to denote movement. The 36 examples of this construction represent 17 per cent of the total use of directionals.

(28) *Lo-lete (e)si-siba doma mlete 'wala ului.*
 to-DIR 3plH-continue.on until DIR 'wala head
 'Once up here, they continued on up to the head of the 'Wala river.'
 (MM: Cl.8)

- b) **Location.** The following sentences exemplify the use of a directional together with a noun phrase to denote location. The 59 examples of this construction represent 28 per cent of the total use of directionals. As shown in the examples, the noun phrase indicating location may immediately precede or immediately follow the directional.

(29) *Meme-mu ma'-te'wa-le-i mlete mosole tala liline peneka.*
 uncle-2sgGenInal NOM-know-with-3sgH DIR forest middle deep already
 'Your uncle has done something with her up in the deep forest.'
 (NK: Cl.37)

- (30) *apale 'ane bei-ni 'wali-ni tone mpe*
 pig eat from-3sgH same.sex.sibling-3sgHGenInal small DIR
'ue-re, (e)le('i) (e)i-mpe-re (e)i-ombe...
 1sg.own-DET then 3sgH-**DIR-DET** 3sgH-say
 'The pig ate that owned by the younger brother down there, then he down
 there said...'
 (ATK: Cl.45–46)

3.1.2 Directional without NP

The second construction using a directional is one in which the directional does not co-occur with a noun phrase. There are 25 occurrences of this construction, 19 of which denote movement towards a goal or movement from a source and 6 of which specify a location.

- a) **Movement.** The 19 examples of constructions in which a directional is used to denote movement without a noun phrase to mark the source or ultimate goal represent 9 per cent of the total use of directionals.

- (31) *Ho'o pi 'ena pina'e meije pine imi bei mlau mo-yo?*
 therefore or when early.morning this before 2pl from **DIR** NEG-Q
 'So probably it was early this morning when you all (came back) from seawards,
 wasn't it?'
 (MK: Cl.30)

A definite article {-re, -je} may be suffixed to a directional.

- (32) *Memane imi leu bei mpe-re, imi doma mei*
 yesterday 2pl return.home from **DIR-DET** 2pl arrive LOC
hena-re 'petu pi-be mosa?
 village-DET dark or-COMP not yet
 'Yesterday when you returned from (that place) down there, was it
 night-time when you all arrived in the village or not yet?'
 (MK: Cl.18–19)

- b) **Location.** The 6 examples of constructions in which a directional denotes location without a noun phrase to overtly specify the location represent 3 per cent of the total use of directionals. This construction is exemplified in the second clause of example (33) below.

- (33) *(E)i-mlete mlinu, mlete bata.*
 3sgH-**DIR** garden **DIR** weed
 'She was up in the garden, up there weeding.'
 (ES: Cl.65–66)

3.1.3 Lo- directional with NP

The third construction using a directional is one in which the clitic form of the 6 directionals (given in Table 1) may be cliticised to the allative *lo-* and used to denote

movement or location. The primary function of *lo-* is to focus on the path of movement rather than the ultimate goal of the movement. Therefore, as described in §2.4 above, according to prescriptive usage this construction should not co-occur with a noun phrase. However, analysis of the textual data found 25 examples of the co-occurrence of the allative together with a directional and a noun phrase, 22 of which denote movement towards a goal or movement from a source and 3 of which specify a location.

- a) **Movement.** The 22 examples of constructions in which *lo-* is used with the cliticised form of a directional and with a noun phrase to denote movement represent 11 per cent of the total use of directionals.

(34) *(E)si-siba soli' lo-ra 'ota Liline.*
 3plH-advance persist **to-DIR** city Riring
 'They kept on advancing over to Riring.'
 (MM: Cl.18)

- b) **Location.** The 3 examples of constructions in which a directional is cliticised with *lo-* and used together with a noun phrase to denote location represent only 1 per cent of the total use of directionals. Note that the noun phrase may precede or follow the directional.

(35) *Latlakeari (e)si-asu-ru sali bei mlete Boluta, lo-pe Kputi lalei.*
 Laturake 3plGenAI-dog-PL bark from DIR Boluta **to-DIR** Kputi inside
 'The people from Laturake, their dogs were barking up at Boluta, over inland of Kputi.'
 (YM: Cl.17–18)

(36) *Au bua 'ena ai tlai-je lo-lau (e)le('i) apale e-bua*
 1sg leap in tree middle-DET **to-DIR** then pig 3sgNH-leap
tutu-muli au lo-lau.
 collide-rear 1sg **to-DIR**
 'I leapt up into the middle of the seawards tree then the pig leapt and pounded at me (who was) seawards.'
 (YM: Cl.26)

3.1.4 *Lo- directional without NP*

The fourth construction using a directional is one in which the clitic form of one of the 6 directionals may be cliticised to the allative *lo-* and used either to denote movement towards a goal or away from a source, or used to denote location where the directional is the only overt specification of the location. There are 64 occurrences of this construction, 50 of which denote movement towards a goal or movement from a source and 14 of which specify a location.

- a) **Movement.** The 50 examples of constructions in which a directional cliticised with *lo-* is used without a noun phrase to denote movement represent 24 per cent of the total use of directionals.

- (37) *Au lo-pai 'eu dana manane.*
 1sg **to-DIR** go fetch food
 'I go down there to fetch food.'
 (YL: Cl.3)

b) **Location.** The 14 examples of constructions in which a directional cliticised with *lo-* is used to mark location, represent 7 per cent of the total use of directionals.

- (38) *(E)le('i) au kulu lo apale lo-lete.*
 then 1sg crawl to pig **to-DIR**
 'Then I crawled over to where the pig was up there.'
 (YM: Cl.24)

3.1.5 Summary

The above sections have described 4 constructions in which spatial reference is marked with a directional. Two of these constructions contain a noun phrase which may precede or follow the directional. Two of the constructions contain the allative preposition *lo-* cliticised to the clitic form of a directional. Table 3 below summarises the relative frequency of the 4 constructions which contain a directional. This table indicates that 61 per cent of spatial reference with a directional is used to denote movement to a goal or from a source, and 39 per cent of spatial reference with a directional is used to denote location. The most commonly occurring constructions are a) the use of a directional with a noun phrase to denote location, and b) the use of a directional together with the allative, *lo-*, to denote movement.

Table 3: Summary of spatial reference constructions with a directional⁶

Construction	Movement		Location	
	#	%	#	%
DIR with NP	36	17	59	28
DIR without NP	19	9	6	3
<i>lo</i> -DIR with NP	22	11	3	1
<i>lo</i> -DIR without NP	50	24	14	7
TOTAL	127	61	82	39

3.2 Spatial reference denoted with the locative *mei*

Each of the four constructions containing the locative to denote spatial reference is described in §3.2.1–§3.2.4 below. The analysis of each construction is subdivided into two

⁶ The abbreviations used in this table are as follows: DIR = directional; LOC = locative; with NP = noun phrase precedes or follows the spatial referent to denote the source or ultimate goal of movement, or location; w/out NP = no noun phrase precedes or follows the spatial referent; *lo-* indicates the use of the allative cliticised to a spatial referent.

categories which differentiate it functionally according to whether the construction is used to denote movement or location.

3.2.1 Locative with NP

The locative may be used together with a noun phrase to denote spatial reference. There are 57 occurrences of this construction, 50 of which specify a location and 7 of which denote movement towards a goal or movement from a source.

- a) **Movement.** The 7 examples of constructions in which the locative together with a noun phrase is used to denote movement represent 5 per cent of the total use of locatives.

(39) (E)i-keu, keu *mei kota*, keu *mei kota* (e)le('i) (e)i-sabe obit nurui.
 3sgH-go go LOC city go LOC city then 3sgH-buy cloth length
 'He went, went to the city, went to the city and he bought a length of cloth.'
 (NK: Cl.80–82)

- b) **Location.** The 50 examples of constructions in which the locative together with a noun phrase is used to denote location represent 35.5 per cent of the total use of locatives.

(40) (E)i-due *mei mlinu* au *meje dua-'u*.
 3sgH-stay LOC garden 1sg this alone-1sg
 'He lived in the garden (and) I was here alone.'
 (GT: Cl.30)

3.2.2 Locative without NP

The second construction using the locative is one in which the locative may be used either to denote movement towards a goal or away from a source with no overt specification of the goal or source, or to denote location where the locative is the only overt specification of location. There are 16 occurrences of this construction, all of which specify a location.

- a) **Movement.** The database revealed no examples of this construction. However, given the low occurrence of some other constructions, it is likely that an expanded database would yield examples of the locative without a noun phrase which denotes movement.
- b) **Location.** The 16 examples of constructions in which location is specified by the locative used without a noun phrase represent 11 per cent of the total use of locatives.

(41) Ontuane 'eu pusu *mlinu lalei meije, lua-si mei mo*.
 old man go all garden inside this, two-3plH LOC NEG
 'The old man went all over the field, (but) the two of them weren't there.'
 (ATK: Cl.139–140)

3.2.3 Lo- locative with NP

The third construction using the locative is one in which the locative may be prefixed with the allative, *lo-*, either used to indicate movement towards or away from an overtly specified location, or used together with a noun phrase to denote location. This construction is the least common in the database with only 6 occurrences, 1 of which specifies a location and 5 of which denote movement towards a goal or movement from a source.

- a) **Movement.** The 5 examples of constructions in which the locative cliticised with *lo-* is used together with a noun phrase to denote movement represent 3.6 per cent of the total uses of the locative.

(42) *Ami leu sui'e lo-mei hena.*
 1plExc return.home again **to-LOC** village
 'We returned here to the village again.'
 (HS: Cl.6)

- b) **Location.** The 1 example of a construction in which the locative cliticised with *lo-* is used together with a noun phrase to denote location represents 0.8 per cent of the total uses of locatives.

(43) *Dunu 'ena ole, (e)le('i) bu-bui-e lo-mei meja.*
 cook in bamboo then REDUP-shake.out-Tr **to-LOC** table
 'Cook it in bamboo then shake it out on the table.'
 (AK: Cl.79–81)

3.2.4 Lo- locative without NP

The fourth construction using the locative is one in which the locative may be prefixed with *lo-* 'towards' and either used to indicate movement towards a goal or away from a source, or used to denote location where the locative is the only overt specification of the location. This is the most common spatial reference construction involving the locative, with 62 occurrences, 5 of which specify a location and 57 of which denote movement towards a goal or movement from a source.

- a) **Movement.** The 57 examples of constructions in which the locative cliticised with *lo-* is used without a noun phrase to denote movement represent 40.5 per cent of the total uses of locatives.

(44) *(E)si-leu lo-mei 'ane.*
 3plH-return.home **to-LOC** eat
 'They come back home to eat.'
 (AK: Cl.51)

- b) **Location.** The 5 examples of constructions in which the locative cliticised with *lo-* is used to denote location represent 3.6 per cent of the total use of locatives.

(45) *(E)le('i) lua-'e lo-mei au lupu-'e hena toini.*
 then arrive-Tr **to-LOC** 1sg gather-Tr village all
 'Then once we had arrived here I gathered the village together.'
 (MM: Cl.24)

3.2.5 Summary

The above sections have described 4 constructions in which spatial reference is marked with the locative *mei*. Two of these constructions contain a noun phrase. Two of the constructions contain the allative preposition, *lo-*, cliticised to the locative. Table 4 below summarises the relative frequency of the 4 constructions which contain the locative. This table indicates that 50.9 per cent of spatial reference with the locative is used to denote location, while 49.1 per cent of spatial reference with the locative is used to denote movement to a goal or from a source. The most commonly occurring constructions are a) the use of the locative together with the allative, *lo-*, to denote movement, and b) the use of the locative with a noun phrase to denote location.

Table 4: Summary of spatial reference constructions with the locative

Construction	Movement		Location	
	#	%	#	%
LOC with NP	7	5.0	50	35.5
LOC without NP	0	0	16	11.0
<i>lo</i> -LOC with NP	5	3.6	1	0.8
<i>lo</i> -LOC without NP	57	40.5	5	3.6
TOTAL	69	49.1	72	50.9

4 Discussion

Section 2 delineated the four zones into which the Alune world is conceptually divided according to the system of spatial reference. We noted that spatial reference in zone 1, local space, is specified by use of a set of 6 directionals, a locative, allative, ablative, and a deictic. In contrast, in each of zones 2–4, that is, the zones which move further away from ego's daily experience, only 1 directional is used for spatial reference (along with the locative, allative, ablative, and deictic). Section 2 also noted that folk-linguistic descriptions of the spatial reference system proscribe co-occurrence of a noun phrase in constructions with the allative *lo-*.

Several interesting features requiring further analysis emerged from §3. First, 8 syntactic constructions involving spatial referents (the set of directionals and the locative) were found in the database of 31 adult texts. The relative frequencies of these constructions were summarised in Tables 3 and 4. A comparison of these tables reveals a pattern in which the most common usage for both locatives and directionals is

- (i) the marking of location through use of a spatial referent (locative or directional) with a noun phrase; and
- (ii) the marking of movement through use of the allative together with the locative or the clitic form of a directional and without a noun phrase.

The data appear to separate functionally into two groups which are differentiated according to whether the speaker's focus is on the path of movement itself or on a specific location. If the focus is on path of movement itself, the speaker most commonly uses the following syntactic construction: the allative cliticised to the locative or the clitic form of a directional,

and with or without a noun phrase. If the focus is on location, the speaker's choice varies according to whether s/he is interested within the narrative in movement to or from a specific location, or is interested in focusing on the location itself. Movement to or from a specific location is most commonly marked by the use of a directional, with or without a noun phrase. Focus on the location itself is most commonly marked by use of the locative with or without a noun phrase, but may also be marked by use of a directional—also with or without a noun phrase. An issue which arises from these observations and which will be examined further in this section is:

- What motivates the presence or absence of a noun phrase in spatial reference constructions?

Second, contrary to prescriptive folk-linguistic descriptions, 20 per cent of the spatial reference constructions with the allative, *lo-*, co-occur with a noun phrase. In this section we further examine the data to ask:

- Under what conditions does the allative, *lo-*, co-occur with a noun phrase?

Third, while we might predict that directionals are used to denote movement in space, 39 per cent of all directionals are used to mark location. Similarly, while we might predict that the locative is used to denote location, 49 per cent of all locatives are used to mark movement. This is perhaps the most intriguing feature to emerge from the analysis of spatial reference in Alune. In this section we further examine the data to analyse two questions which thus arise:

- Is there a discourse-functional motivation for the signifying of location with a directional or the allative?
- Is there a discourse-functional motivation for the signifying of movement with the locative?

4.1 Noun phrases

This section addresses two questions concerning the use of noun phrases in spatial reference.

- Under what conditions does the allative, *lo-*, co-occur with a noun phrase?
- What motivates the presence or absence of a noun phrase in spatial reference constructions?

4.1.1 Noun phrases in spatial reference with an allative

Analysis of the discourse data in §3 indicated that the allative, *lo-*, may be cliticised to a directional (cf. §3.1.3 and §3.1.4) or to the locative (cf. §3.2.3 and §3.2.4). Our analysis reveals two findings concerning the function of constructions containing the allative. First, the primary function of these constructions is to signify movement rather than location: 85 per cent of the 157 occurrences of the allative in spatial reference (134 tokens) are used for this function. Second, constructions containing the allative are clearly speakers' preferred means of marking movement. Statistical analysis of the database reveals that the 134 occurrences of the allative represent 68.4 per cent of the total 196 spatial referents signifying movement.

Movement is secondarily marked using a directional (28 per cent) or, in very few cases, with use of the locative (3.6 per cent).

Of the 157 allative constructions 80 per cent comply with the proscription against co-occurrence with a noun phrase (126 tokens). Analysis of the data indicates that these constructions most commonly occur where the source or goal location of the movement has been contextualised earlier in the discourse. The following two consecutive clauses in a narrative illustrate this point.

- (46) *Au 'ai Anto lua-ma 'eu lo' 'wele-re mpe 'weune.*
 1sg and Anto two-1plExc go to water-DET DIR valley
 'Anto and I, the two of us went down to the river in the valley.'
 (ES: Cl.32)

- (47) *'Eu lo-pe hnata 'wele 'ena depa ole.*
 go to-DIR collect.in.receptacle water in cut bamboo
 'We went down there to cut some bamboo in which to collect water.'
 (ES: Cl.33)

The goal location of the movement is specified in example (46) in a construction with a directional, *mpe*, followed by a noun phrase, *'weune*. In the following clause the speaker then focuses on the purpose for movement rather than the goal location of the movement by using a construction with the allative cliticised to the clitic form of the appropriate directional, *-pe*. Given the previous contextualisation of the goal, there is no need for the speaker to include a noun phrase following the spatial referent.

In cases in which context cannot be retrieved from the preceding discourse, the speaker most often contextualises the source or goal of the movement in the same or the following clause by using a directional together with a noun phrase. This is exemplified in example (48) below in which the speaker immediately corrects to contextualise the location.

- (48) *Ami dulu lo-pe mpe Tani'we.*
 1plExc descend to-DIR DIR Taniwel
 'We went down there down to Taniwel.'
 (MM: Cl.9)

Where the source or goal of movement remains unclarified within the text, it is always retrievable from shared knowledge between the speaker and hearer. In the following example the speaker was describing her daily activities which included going to fetch food for her children. In the setting of an isolated Alune village, this activity can only mean going to fetch vegetables from her garden, the location of which is known to all villagers.

- (49) *Au lo-pai 'eu dana manane.*
 1sg to-DIR go fetch food
 'I go down there to fetch food.'
 (YL: Cl.3)

The 31 cases in which a noun phrase does co-occur with the allative plus a directional or the locative require further examination. Of these constructions 27 denote movement and the remaining 4 denote location. Our analysis of this construction indicates that in each case the noun phrase provides context which is not clear in the narrative.

- (50) (E)si-siba soli' lo-ra 'ota Liline.
 3plH-advance persist **to-DIR** city Riring
 'They kept on going over there to Riring.'
 (MM: Cl.18)

In example (50) above, the narrator is discussing an historical incident involving a war between villages. When the conflict had been resolved, the soldiers continued on their way towards the neighbouring village of Riring. The speaker indicated the direction of their travels with the allative construction, but immediately clarified the goal location with the addition of a noun phrase. Clarification of the goal location also occurs in example (51) below, in which movement is indicated by the allative plus the locative.

- (51) Ami leu sui'e lo-mei hena.
 1plExc return.home again **to-LOC** village
 'We returned here to the village again.'
 (HS: Cl.6)

In cases in which location is specified by the use of the locative or a directional cliticised with *lo-* and used together with a noun phrase, such as in examples (52) and (53) below, we see the same process of clarification.

- (52) Latlakeari (e)si-asu-ru sali bei mlete Boluta, lo-pe Kputi lalei.
 Laturake 3plHGenAl-dog-PL bark from DIR Bolutu **to-DIR** Kputi inside
 'The people from Laturake, their dogs were barking up at Boluta, over inland of Kputi.'
 (YM: Cl.17–18)
- (53) Dunu 'ena ole, (e)le('i) bu-bui-e lo-mei meja.
 cook in bamboo then REDUP-shake.out-Tr **to-LOC** table
 'Cook it in bamboo then shake it out on the table.'
 (AK: Cl.79–81)

4.1.2 Noun phrases in spatial reference without an allative

In contrast with allative constructions in which noun phrases are uncommon, noun phrases are commonly found in spatial reference constructions which do not contain an allative. A noun phrase precedes or follows a directional in 79 per cent of the 120 spatial reference constructions in which a directional is used to signify movement or location (95 tokens). A noun phrase also occurs following a locative in 78 per cent of the seventy-three spatial reference constructions in which a locative is used to signify movement or location (57 tokens). These constructions are differentiated both syntactically and functionally.

Syntactically, directionals which occur with a noun phrase function as prepositions, while those without a noun phrase function as nominals. In constructions without noun phrases, the goal location or source location of the movement is clear from the earlier context or is clarified in the same or a closely following clause. The process of contextualisation is exemplified in the following clauses drawn from a conversation between two men.

- (54) MK: Ntulu mlau lalane 'lai, ninu.
 sleep **DIR** road middle garden
 '(We) slept seawards along the road, in a garden.'

[seven intervening clauses]

- (55) WM: *Ho'o pi 'ena pina'e meije pine imi bei mlau mo-yo?*
 therefore or when early.morning this before 2pl from DIR NEG-Q
 'So probably it was early this morning when you all (came) from seawards,
 wasn't it?'
 (56) MK: *Pina' beleti ami bei mlau mlinu.*
 early.morning morning 1plExc from DIR garden
 'It was early this morning when we (came) from the seawards garden.'
 (MK: Cl.21–31)

The directional used in the question in example (55) above functions as a nominal following the ablative preposition. The source location of the movement is not specified, however the speaker does focus on the source direction of the movement through the context provided 8 clauses earlier by a directional together with a noun phrase. The location was again specified by the respondent in example (56).

The use of a definite article {-*re*, -*je*} suffixed to a directional indicates that the speaker considers the source of movement to be contextualised. The following excerpt from a conversation between two men illustrates this point.

- (57) YM: *Ami leu bei mpe Tani'wele.*
 1plExc return.home from DIR Taniwel
 'We were coming home from Taniwel.'

[2 intervening clauses]

- (58) YM: *Ami 'eu a-beli cengkeh mpe Tani'we.*
 1plExc go CAUS-sell clove DIR Taniwel
 'We went to Taniwel to sell clove.'
 (59) WM: *(E)le('i) imi leu bei mpe-re imi pusu-mi sui*
 then 2pl return.home from DIR-DET 2pl all-2pl chase
asu-re pi-be batu ale dua-mu-o?
 dog-DET or-COMP only 2sg alone-2sg-Q
 'Then when you all were coming home from down there did all of you follow
 the dogs or only you?'
 (YM: Cl.8–12)

The two men were discussing an incident in which one of them, YM, had been injured during a pig hunt. Early in the narrative YM introduced the specific location from which he was returning when he and his companions encountered the pig. He used the directional, *mpe*, as a preposition, which is followed by the noun *Taniwel* to denote the location of Taniwel in local space. Given this contextualisation, WM was able to use a structure in which the directional is a nominal suffixed with a determiner, -*re*, and follows the ablative preposition *bei*. This example highlights the function of constructions consisting of a directional without a noun phrase: they serve to focus on the direction of the action rather than the source location.

Database examples of the construction in which a directional denotes location without a noun phrase to overtly specify the location were analysed. This also reveals that in each case

the context had been specified in the previous clause or was further specified by a noun phrase in the following clause.

- (60) (E)*i-mlete mlinu, mlete bata.*
 3sgH-DIR garden DIR weed
 'She was up in the garden, up there weeding.'
 (ES: Cl.65–66)

In example (60) above, the speaker first denoted the specific location with a noun phrase, which then enabled her to omit the noun phrase in the following clause and focus on the direction of the second participant in the narrative relative to the speaker. In example (61) below, the speaker omitted a noun phrase in the first clause and then corrected to provide the necessary context in the following clause.

- (61) *Bete be(he) luma meije mlesa mpai,*
 say COMP house this comparable.with DIR
 'It's said that compared to those over there,
 (JS: Cl.12)
mlesa 'aiye mpai hena-ru.
 comparable.with DIR village-PL
 compared with those over in the village.'
 (JS: Cl.13)

In a very few cases (5 per cent of all occurrences of the locative) the locative is used together with a noun phrase to denote movement towards a goal or away from a source. These examples represent innovative use of the locative and will be discussed in greater detail in §5. Syntactically, the locative functions as a preposition and the following noun phrase is used to introduce new information into the discourse context as exemplified in example (62) below.

- (62) (E)*i-keu, keu mei kota, keu mei kota (e)le('i) (e)i-sabe obit nurui.*
 3sgH-go go LOC city go LOC city then 3sgH-buy cloth length
 'He went, went to the city, went to the city and he bought a length of cloth.'
 (NK: Cl.80–82)

In cases in which a locative is used without a noun phrase, the locative functions as an existential.

- (63) *Ontuane 'eu pusu mlinu lalei meije, lua-si mei mo.*
 old.man go all garden inside this two-3plH LOC NEG
 'The old man went all over the field, the two of them weren't there.'
 (ATK: Cl.139–140)

4.1.3 Summary

In this section we have examined the factors which condition the presence or absence of a noun phrase in spatial reference. Further analysis of the data has found that 80 per cent of the allative constructions comply with the proscription against co-occurrence with a noun phrase. An interesting contrast is provided by analysis of the 193 directional and locative constructions which do not contain an allative. Of the 120 directional constructions 79 per

cent co-occur with a noun phrase and 78 per cent of the 73 locative constructions co-occur with a noun phrase. This finding is summarised in Table 5 below.

Table 5: Summary of the use of NPs in constructions without an allative

	with NP	without NP	Total
DIR	95	25	120
LOC	57	16	73
TOTAL	152	41	193

The analysis has revealed that both syntactic and discourse-functional factors motivate the presence of a noun phrase. The primary function of allative constructions is to focus either on the path of movement or the purpose for the movement. A noun phrase is only added in order to provide clarification where the source location or the goal location of the movement has not been made clear earlier in the discourse. Spatial reference constructions with a directional and without an allative differ both syntactically and functionally. In constructions with a noun phrase plus a directional, the directional functions syntactically as a preposition, while in those constructions without a noun phrase the directional functions as a nominal and may be suffixed with a determiner. The function of such constructions with a noun phrase is to focus on the source or goal location. In contrast, a directional without a noun phrase serves to focus on the direction of the action rather than the source location.

4.2 Location

The database of 350 spatial referents yielded 154 examples in which the spatial referent signified location. Location is marked syntactically in four ways: with the allative plus a directional or the locative, with a directional, or with the locative. Table 6 below summarises the relative frequency of use for the four constructions.

Table 6: Relative frequency of spatial reference constructions signifying location

Construction	#	%
allative (<i>lo</i> -LOC)	6	4.0
allative (<i>lo</i> -DIR)	17	11.0
directional (DIR)	65	42.2
locative (LOC)	66	42.8
TOTAL	154	100.0

The marking of location with a locative (LOC or *lo*-LOC) is considered uncontroversial and is not further analysed here. However, given the high frequency of usage of spatial reference constructions other than the locative in denoting location, this section addresses the following question: What motivates the signifying of location with an allative (*lo*-DIR) or a directional (DIR)?

4.2.1 Allative plus directional (Lo-DIR) marking location

In §2.4 above it was noted that the preposition, *lo-*, may be cliticised to the locative, *mei* (*lo-LOC*), or to one of the directionals (*lo-DIR*). In each case, the primary function of these constructions is to denote a path of movement. However, analysis of the discourse data indicates that 15 per cent of allative constructions mark location. Functionally, these constructions are used primarily in situations in which a contrast is drawn between the location of the speaker and the location of another key participant in the narrative. The use of an allative construction (rather than the locative) to mark location of a participant other than the speaker indicates the path of movement which the speaker would need to take to reach that location. In example (38), repeated below, the narrator was focusing on the location of the pig, which was upward (*lo-lete*) from him.

- (38) (E)le('i) au kulu lo apale lo-lete.
 then 1sg crawl to pig to-DIR
 'Then I crawled over to where the pig was up there.'
 (YM: Cl.24)

Similarly, in example (35), repeated below, dogs were barking at a location downward (*lo-pe*) and inland (*lalei*) from the narrator.

- (35) Latlakeari (e)si-asu-ru Sali bei mlete Boluta, lo-pe Kputi lalei.
 Laturake 3plHGenAI-dog-PL bark from DIR Boluta to-DIR Kputi inside
 'The people from Laturake, their dogs were barking up at Boluta, over inland of Kputi.'
 (YM: Cl.17–18)

4.2.2 Directionals marking location

As noted in Table 6 above, 42.2 per cent of all (non-allative) constructions signifying location do so with a directional. Analysis of these cases reveals that there are two functions for these constructions. The first function is the use of directionals to specify more accurately a location.

- (64) Au pala kwabi mlau ninu.
 1sg bake cassava DIR garden
 'I baked cassava in the seaward garden.'
 (ES2: Cl.4)

In example (64) above, the function of the directional, *mlau*, is to specify clearly the location of the speaker's garden. This is a similar spatial reference to an English sentence such as 'I bought some new plants for the garden on the west side of our house'.

The second function of a construction employing a directional to mark a location is its role in contrasting the location of participants in a narrative and thus, in some cases, disambiguating the participants. This function is best illustrated by example (30), repeated below. This example, drawn from *Tuni tepete* 'Folktale about water rose apples', tells of the adventures of two young boys who ran away from home. At one point in the narrative the older brother climbed a tree to pick some water rose apples and dropped them down to his younger brother who waited beneath the tree. A pig came along and ate the younger brother's

fruit. In example (30) the speaker contrasts the location of two brothers in the narrative and in the second clause disambiguates the younger brother as ‘the downward brother’.

- (30) *apale 'ane bei-ni 'wali-ni tone mpe*
 pig eat from-3sgH same.sex.sibling-3sgHGenInal small DIR
'ue-re, (e)le('i) (e)i-mpe-re (e)i-ombe...
 1sg.own-DET then 3sgH-DIR-DET 3sgH-say
 ‘The pig ate that owned by the younger brother down there, then he down
 there said...’
 (ATK: Cl.45–46)

The frequency of marking location with directionals emphasises the important disambiguating or clarifying role of spatial reference.

4.2.3 Summary

In this section we have asserted that it is predictable that the function of the locative is to denote location and we have turned our attention to the more interesting issue concerning the signifying of location with an allative (*lo*-DIR) or a directional (DIR). The analysis indicates that an allative cliticised to a directional functions to mark location when a contrast is drawn between the location of the speaker and that of another key participant in the narrative. The allative then indicates the path of movement which the speaker would need to take to reach that location. Directionals fill two functions in signifying location: first, a directional specifies more clearly a key location in a narrative, and second, a directional serves to contrast or disambiguate the relative locations of two participants in a narrative.

4.3 Movement

The database of 350 spatial referents yielded 196 examples in which the spatial referent signified movement. Movement is marked syntactically in four ways: with a directional, with the allative plus a directional or the locative, or with the locative. Table 7 below summarises the relative frequency of use for the four constructions.

Table 7: Relative frequency of spatial reference constructions signifying movement

Construction	#	%
locative (LOC)	7	3.6
directional (DIR)	55	28.0
allative (<i>lo</i> -LOC)	62	31.6
allative (<i>lo</i> -DIR)	72	36.8
TOTAL	196	100.0

The marking of movement with the allative (*lo*-DIR) or with a directional (DIR) is considered uncontroversial and is not further analysed here. However, the total frequency of usage of the locative (LOC or *lo*-LOC) in denoting movement (35.2 per cent of all spatial

reference denoting movement) requires explanation. This section addresses the following question: What motivates the signifying of movement with the locative?

4.3.1 Allative plus locative (Lo-LOC) marking movement

The constructions which consist of the allative cliticised to the locative, *mei* (lo-LOC), function to denote movement towards the narrator's location—either his or her location at the time of narrating the story, or a specific location at a particular point in the action of the narrative. The clauses in examples (65)–(67) below are drawn from a conversation between two men who were discussing an incident in which one of them, YM, had been injured during a pig hunt. The conversation took place in YM's house in the village. However, clauses (65) and (66) show that the speaker's use of *lo-mei* 'to here' does not indicate movement towards his location at the time of narrating the story but rather movement towards a specific location at a particular point in the action of the narrative.

- (65) *Ami leu lulu Kputi lalei bei mlau lo-mei,*
 1plExc return.home follow Kputi inside from DIR to-LOC
 'We were returning following along inland of Kputi from seaward to here,'
- (66) *lo-mei 'ena lo-lete Bolu 'weli-(n)i,*
 to-LOC towards to-DIR Boluta river-3sgHGenInal
 'to here up to the river Boluta,'
- (67) *ami lene lo-ri teba yo.*
 1plExc hear to-DIR other.side DM
 'when we heard (something) on the other side.'
 (YM: Cl.14–16)

4.3.2 Locative marking movement

The most controversial body of data concerns the small number of constructions from the discourse database in which the locative, *mei*, is used without an allative to denote movement. In order to expand the database for analysis of the functions of this construction, test data is also included. Testing of Alune language proficiency was undertaken with 105 adult respondents in the three research sites. This was done to provide standardised data which would allow comparisons to be drawn between different locations of syntactic changes which are occurring as part of the process of language shift from Alune to Malay.⁷ The adult test consisted of 100 test sentences which were designed to elicit a number of Alune morph-syntactic structures. Test sentences were constructed in Ambonese Malay and respondents were asked to translate the sentences into Alune. Of the sentences 23 contained a spatial reference,⁸ yielding a total of 2520 sentences for analysis. In the test data the use of the locative to mark movement is more striking, with an average frequency of 17 per cent of spatial referents used to mark movement. We draw on both test data and discourse data in proposing two explanations for this usage.

⁷ A more complete discussion of the test methodology and results is provided in Florey (1997).

⁸ The test sentences with a spatial reference are provided in Appendix 1.

Using evidence from the discourse data, we first hypothesise that the function of *mei* is to denote movement in contexts in which the path of movement between two locations is unknown. A folktale in the database (Lisona) involves a young girl who was taken to the mountains by her uncle and held captive in a tree house. Her mother was at home in the village, and her brother travelled several times between the mountains and the village attempting to free her. The brother also travelled to the city to purchase items needed to free her, and the entire family later moved to the city. In this folktale all locations are fictional, unnamed, and unspecified, and the path of movement between any two locations is therefore also unknown. The narrator uses *mei* to mark movement where the source location and the goal location are unknown.

- (68) (E)i-leu bei-(n)i *mei* hena.
 3sgH-return.home from-3sgH LOC village
 ‘He left her and went home to the village.’
 (NK: Cl.24)
- (69) (E)i-keu *mei* kota (e)le(’i) (e)i-sabe obit nurui.
 3sgH-go LOC city then 3sgH-buy cloth length
 ‘He went to the city and he bought a length of cloth.’
 (NK: Cl.82)
- (70) Lua-si leu, leu *mei* hena.
 two-3plH return.home return.home LOC village
 ‘The two of them returned home, returned home to the village.’
 (NK: Cl.130–131)

In order to investigate this hypothesis further, we analysed the use of locatives to mark movement towards a specified goal in the test sentences which respondents were asked to translate. Seven of the test sentences named a specific village as the goal, 5 of the test sentences named a geographical landmark in local space (river, mountains, forest, treetop), and 5 of the test sentences designated the garden as the goal. As indicated in Table 8 below, the results for each village show a clear contrast in usage of spatial referent between the garden and all other locations as the ultimate destination.

Table 8: Spatial referent indicating movement analysed by spatial type of ultimate destination

	DIR	LOC
a) Lohiasapalewa	%	%
garden	26	63
all other locations	74	37
b) Murnaten		
garden	20	64
all other locations	80	36
c) Lohiatala		
garden	26	100
all other locations	74	0

There is only one directional which is appropriate for each location in the test sentences other than those specifying the garden as the ultimate location. The river is downward, *mpe*,

while the mountains, forest, and treetop are upward, *mlete*. There is one appropriate directional for Ambon and each of the villages named in the test questions. In contrast, gardens are located in all directions from the village settlement site, thus rendering all six directionals possible responses to the five test items which named the garden as the ultimate destination. The respondents were not guided regarding the location of the garden in the test sentence. Each respondent could choose to interpret the question as meaning the direction of his or her own garden in the village territory, or the direction of a fictional or an unspecified garden. The choice of *mei* by the majority of test respondents in Lohiasapalewa and Murnaten, and categorically by respondents in Lohiatata may lend support to the hypothesis that *mei* functions to mark movement to a site where the location of that site is not known to the speaker. However, a second explanation is also feasible.

Written records and the history transmitted through oral traditions, indicate that, in the era prior to more constant contact with colonial and postcolonial authorities, the Alune people dwelled in extended family groups in small hamlets in the mountainous rainforest interior of west Seram. Villagers combined hunting and the harvesting of noncultivated forest products with the extraction of sago starch and the cultivation of rice, roots, tubers, and vegetable crops in swidden fields. The village of Lohiasapalewa occupies the most extensive tract of land within the Alune region. The hamlets, each consisting of perhaps two or three dwellings, were therefore dispersed over a distance of several kilometres from each other. Contact with members of other hamlets was irregular, occurring while hunting or moving to distant sago stands in the forest, or on occasions of ritual importance such as the celebration of a marriage or the payment of bridewealth. Knowledge of the daily lives of people in other hamlets was, therefore, limited. For example, members of one hamlet may not have known in which part of the forest another family was making a new garden, or in which direction a group of men had gone hunting boar. In this context, an elaborate directional system was an important means of conveying such information.

In the contemporary era, each Alune village is established in a nucleated settlement site within its territory. Land close to the village residential area is becoming scarce and gardens may be located up to 5 or 6 kilometres through the rainforest from the village. Most villagers, particularly those with children attending primary school, return to their home each evening. Some villagers may remain in the gardens for several days at a time, dwelling in simple shelters. All villagers, however, return to the village by Saturday afternoon in order to participate in religious services on Saturday evening and throughout Sunday. In this context, communication between villagers is much more frequent. In the evenings and in the relaxed atmosphere which characterises Sundays in the village, people visit their neighbours and chat about daily activities and village events. Everyone, from the youngest to the oldest, knows where people are working—in which part of the forest men are processing sago, where the gardens are located, which spring is flowing and being used as a laundry site, who is harvesting cacao or clove in which orchard, and so forth. Greater ease and frequency of communication and the resulting increase in shared knowledge in the community provides an equally plausible explanation for the use of locatives to mark movement.

Finally, we propose that superstrate influence from Ambonese Malay on Alune may explain the usage of *mei* to mark movement in Alune. In contrast with both Standard Malay and with Alune, Ambonese Malay does not have a prepositional contrast between locative and allative. The locative, *di*, is used in both functions. This convention appears to parallel some of the uses of *mei* in Alune.

- (71) *Beta pi di pasar.*
 1sg go ALL market
 'I'm going to the market.'
- (72) *Katong tinggal di kabong tadi malang.*
 1pl stay LOC garden previous night
 'We stayed in the garden last night.'

4.3.3 Summary

In this section we have asserted that it is predictable that the function of a directional is to denote movement and we have turned our attention to the more interesting issue concerning the signifying of movement with the locative (*lo*-LOC or LOC). The analysis indicates that an allative cliticised to a locative functions to denote movement towards the narrator's location—either his or her location at the time of narrating the story, or the narrator's specific location at a particular point in the action of the narrative.

The issue of the signifying of movement with the locative without an allative has been addressed using both discourse data and the results of language testing. We proposed two functional explanations for this usage. First, we asserted that the function of these constructions is to denote movement in contexts in which the path of movement between two locations is unknown. Data from test sentences with spatial references appears to support this assertion, particularly concerning the location of gardens, which varies widely throughout village territory. Second, we suggested that the use of locative to mark movement towards certain locations may have arisen through social change in the village. Villagers now dwell in one nucleated settlement site, rather than in small extended family hamlets throughout the village territory. The resulting greater ease and frequency of communication has led to an increase in shared knowledge in the community. Thus, it is less necessary for villagers to use a directional to specify clearly the direction of movement towards sites which they regularly visit, such as gardens, as the locations of such sites are known to all villagers. Finally, we proposed that the use of the locative to mark movement may reflect superstrate influence from Ambonese Malay.

5 Conclusion

This paper has examined spatial reference among the Alune of central Seram, eastern Indonesia. Certain key issues have emerged from the analysis. Conceptually, the Alune system of spatial reference divides the world into 4 spatial zones which increase in distance from the daily experience of the speaker. Six directionals are used to denote spatial reference in zone 1, while only 1 directional is used to denote spatial reference in each of zones 2–4. The system of spatial reference also includes a locative, allative, ablative, and a deictic.

Spatial reference in Alune discourse is denoted through the use of 8 syntactic constructions. Discourse-functional factors were sought to explain the range of syntactic constructions. Four features differentiate the 8 constructions: whether the spatial referent is a directional or the locative; whether or not a noun phrase co-occurs with the spatial referent; whether the allative preposition co-occurs with a spatial referent; whether a spatial referent is used to denote movement or location.

Noun phrases co-occur with a spatial referent to provide context which is not clear in the narrative by contextualising or clarifying a specific location. A noun phrase is also used to denote a location in situations in which the speaker intends to focus on the location rather than path of movement from or to the location.

Our analysis of the function of an allative (*lo-DIR*) or a directional (*DIR*) to mark location showed that the former is used to mark location when a contrast is drawn between the location of the speaker and that of another key participant in the narrative. The latter construction fills two functions in signifying location: first, a directional specifies more clearly a key location in a narrative, and second, a directional serves to contrast or disambiguate the relative locations of two participants in a narrative.

Finally, we analysed the function of the locative (*lo-LOC* or *LOC*) in signifying movement rather than location. The analysis indicates that an allative cliticised to a locative functions to denote movement towards the narrator's location—either his or her location at the time of narrating the story, or the narrator's specific location at a particular point in the action of the narrative. We proposed two functional explanations for the use of the locative without an allative to denote movement. First, we asserted that the function of these constructions is to denote movement in contexts in which the path of movement between two locations is unknown. Second, we suggested that the use of locative to mark movement towards certain locations may have arisen through greater ease; and frequency of communication has led to an increase in shared knowledge in the community which has resulted from social change in the village.

The analysis in this paper has been based principally on discourse data, and a number of significant issues concerning the use of terms of spatial reference have emerged. It is reasonable to consider that the kind of phenomena which we have noted for Alune could also occur in other Austronesian languages. Our analysis leads us to suggest that the absence of discussion of these issues may be an outcome of the methodologies used. Descriptions of spatial reference based largely on elicited data or responses given in tests or experimental situations may be closer to a model of idealised usage than models which actually occur in discourse. Such data may conceal the full range of syntactic constructions and discourse functions associated with spatial reference.

Appendix 1: Ambonese Malay test sentences containing spatial reference

S#	Ambonese Malay elicitation sentence	English translation
3	<i>Beta seng pi di Ambon.</i>	'I didn't go to Ambon.'
4	<i>Apa tempo katong pi di Ambon?</i>	'When are we going to Ambon?'
6	<i>Beta pigi di kabong</i>	'I went to the garden.'
16	<i>Dia pi di kali (air)</i>	'S/he went to the river (water).'
26	<i>Besok katong pi di Ambon</i>	'Tomorrow we're going to Ambon.'
38	<i>Ose kasi turung akang dari ujung pohong</i>	'(You) lower that from the top of the tree.'
39	<i>Ata dan Epi pi di kabong</i>	'Ata and Epi went to the garden.'

46	<i>Pagi-pagi katong turung dari hutang</i>	'Early in the morning we came down from the forest.'
48	<i>Beta kasi naik dia di ujung pohong</i>	'I raised him to the top of the tree.'
49	<i>Beta pigi di gunung dan lihat babi</i>	'I went to the mountains and saw a pig.'
60	<i>Beta su lama tinggal di sini</i>	'I've lived here a long time.'
66	<i>Dong seng ada di ruma</i>	'They're not at the house.'
76 (LS)	<i>Dia pulang dari Buria</i>	'S/he came home from Buria.'
76 (LT)	<i>Dia pulang dari kampung lama</i>	'S/he came home from the old village.'
76 (Mrtn)	<i>Dia pulang dari Taniwel</i>	'S/he came home from Taniwel.'
79	<i>Beta biking bakal untuk bawa di kabong</i>	'I made a picnic to take to the garden.'
80	<i>Ada ikang banyak di sana</i>	'There's a lot of fish there.'
85	<i>Dong balong pi di kabong</i>	'They haven't gone to the garden yet.'
86 (LS)	<i>Dong pi di Manusa</i>	'They went to Manusa.'
86 (LT)	<i>Dong pi di Kairatu</i>	'They went to Kairatu.'
86 (Mrtn)	<i>Dong pi di kali Pana</i>	'They went to the river Pana.'
89 (LS)	<i>Beta pi di Taniwel untuk jual pisang</i>	'I went to Taniwel to sell bananas.'
89 (LT)	<i>Beta pi di Waihatu untuk jual pisang</i>	'I went to Waihatu to sell bananas.'
89 (Mrtn)	<i>Beta pi di pasar untuk jual pisang</i>	'I went to the market to sell bananas.'
90	<i>Kasi turung barang di sini</i>	'Put the things down here.'
96 (LS)	<i>Dong pi di Riring</i>	'They went to Riring.'
96 (LT)	<i>Dong pi di Kamal</i>	'They went to Kamal.'
96 (Mrtn)	<i>Dong pi di kampung lama</i>	'They went to the old village.'
99	<i>Beta pi di kabong untuk tanam kasbi</i>	'I went to the garden to plant cassava.'
100	<i>Dong su pinda di sana</i>	'They've already moved there.'

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3 *Hiding behind trees on Ambae: spatial reference in an Oceanic language of Vanuatu*

CATRIONA HYSLOP

1 Introduction¹

Walking through the bush on Ambae, the island of Vanuatu where I carried out the linguistic fieldwork on which this paper is based, my young ‘sisters’ would often run ahead of the rest of the family. When we failed to discover where they were hiding, they would jump out behind us triumphantly. Once, when I managed to spot where Kenneth, the youngest girl, was hiding, confident of my language skills, I said to her mother, Roselyn, *Goleo, Kenneth mo hili lo tagui baego* ‘Look, Kenneth is hiding behind the breadfruit tree’. Roselyn, never forgetting her role as my language teacher, responded that she had seen Kenneth, but that was not in fact the correct way to describe her position, because *gai hate tagure* ‘trees don’t have backs’.² While she told me what the correct way of describing Kenneth’s location would be, at that stage in my language learning process I could not understand the system of spatial reference operating in the language enough to be able to understand *why* what she told me was the correct way to refer to such a location. In order to answer this question it is necessary to look in detail at the complex system which exists in North-East Ambae for expressing spatial relationships linguistically. The spatial relationship ‘behind the tree’ is an expression of a relative frame of spatial reference, but in Ambae³ there is no means for expressing relative locations, and to refer to such a spatial relationship either an absolute or intrinsic frame of reference must be employed.

¹ This paper is based on a chapter of my PhD thesis which has been published as Hyslop (2001). I am particularly grateful to Bill Palmer for his comments on my thesis chapter and for setting me straight on a few points. A different version of this paper has been published as Hyslop (1999).

² This is also a lesson in the dangers of elicitation, as my confidence in the accuracy of my response stemmed from the fact that I had elicited a similar sentence from Roselyn herself on my fieldtrip the year before. When I asked her how one would say, ‘S/he came out from behind the trees’ she gave me a literal, clearly incorrect translation, *mo vanai mo liliu lo tagui gai*.

³ There are two languages spoken on the island of Ambae: North-East Ambae, spoken in the north, east and south and Duidui, spoken in the west. Hereafter I shall refer to North-East Ambae as Ambae.

In this paper, three frames of spatial reference, intrinsic, relative and absolute, are discussed and described for Ambae. The expression, 'intrinsic frame of reference' refers to the specification of a location or direction in relation to an inherent feature of an object, such as its front, back or side. In contrast, a 'relative frame of reference' is dependent on the location of the speaker, and the location being referred to is specified relative to the speaker's location. This type of reference frame is thus changeable according to a change in the speaker's location rather than being fixed according to inherent features of an object. An 'absolute frame of reference' refers to locations according to fixed reference points in our environment, such as north, towards the sea or down-river.⁴ This paper describes in detail the absolute/deictic system of spatial reference which is the system most commonly used in the language to talk about spatial relations, and also briefly describes the set of relational location nouns which operate using an intrinsic frame of reference. It will then be possible to illustrate how an absolute frame of reference can be used to describe a spatial relation which in some languages may be referred to using a relative frame of reference, in order to talk about such locations as 'behind a tree'.

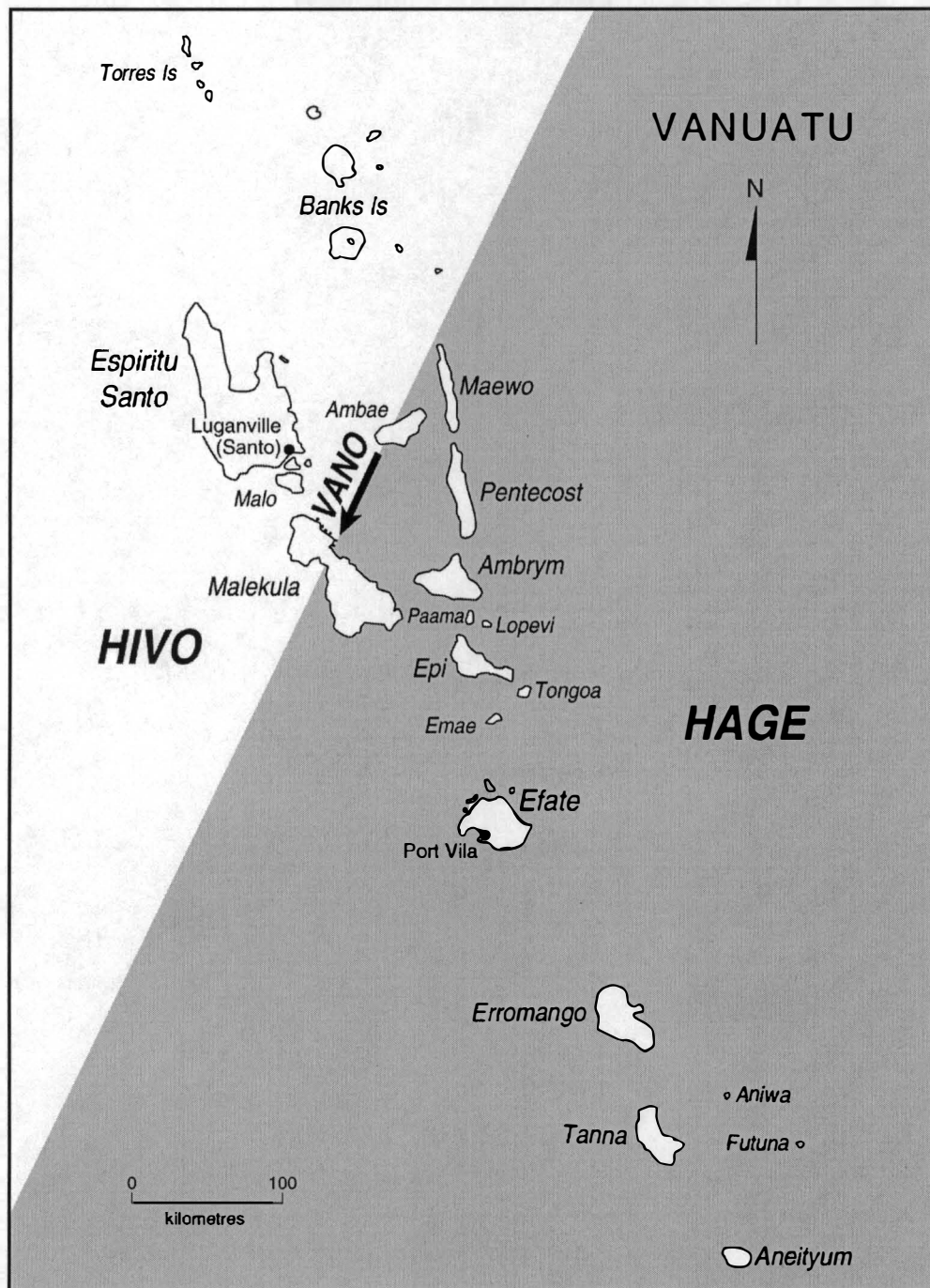
In Ambae there is a class of 'directionals' which involve the interaction between an absolute and a deictic system. The absolute system is based on a division of the environment that uses both the vertical axis and the landward – seaward axis, although it also uses other divisions. Onto this absolute system is mapped a partially deictic system, such that each of the oppositions of the absolute system can be marked according to a three-way distinction relative to the participants of the speech act.

The language also employs a set of relational location nouns which are used to express intrinsic relations between objects. The intrinsic system is used to specify the location of objects, mostly in terms of small-scale relations. The absolute/deictic system, on the other hand, is used to specify both the location of objects and direction of movement. It operates on both large-scale and small-scale space. The intrinsic system can also be used in combination with the absolute system on the small-scale space to give more detailed specifications of location.

2 The linguistic setting

The island of Ambae is located in the north of the Vanuatu chain of islands, east of the large island of Espiritu Santo (see Map 1). It is formed by the cone of a dormant volcano, which peaks at 1496m in the centre of the island. As the island has a relatively small area, being less than 40km in length, and approximately 15km at its widest point, a considerable elevation is thus reached over a relatively short distance. The result is an island which rises steeply from the sea, and continues rising steadily to the peak of the volcano. Apart from small areas at the north-eastern and south-western ends of the island, the topology of almost

⁴ More detailed discussion and definition of the terms 'intrinsic', 'relative' and 'absolute', is given in §3. The reader is also referred to Palmer's paper in this volume and to Levinson (1996) for a more extensive discussion of different frames of spatial reference.



Map 1: Directionals used for movement to other islands within Vanuatu

the entire island consists of steep hillsides which are densely vegetated, and fall away at times into creek beds formed by ancient lava flow. Ambae receives considerable rainfall, and many of these creeks are rendered impassable after heavy rain. Few of these creeks offer a regular water supply however, as they tend to stop flowing shortly after the rain has ceased.

As a result of this fairly inhospitable environment, areas of habitation on the island are generally restricted to those flatter north-eastern and south-western areas, and a narrow coastal strip rounding the island. In only a few areas are there villages located more than 2km inland of the coast. Most of the rugged interior of the island is uninhabited, even fallow for planting gardens—in fact, most people rarely venture far inland and few have travelled the difficult

path to the top of the volcano. The people plant their crops of taro, banana, sweet potato, yam and manioc in steep hillside gardens, either close to the sea or slightly further inland than their villages.

Being a volcanic island, Ambae is not surrounded by many areas of reef, and there are few beaches. Rather, for the most part the coastline consists of large black rock rising up out of the sea, making the shoreline considerably less accessible than it is in areas where there is reef. As the land rises so steeply in these places, villages are generally not located directly adjacent to the sea. This means that, while people in most areas do visit the seashore to collect crabs, shellfish and occasionally to fish, the sea is only relied on as a source of food in those areas where there is reef providing easy catches. Traditionally however, like all Oceanic peoples, the people of Ambae were very much a seafaring people, using canoes not only for travel to other parts of the island, and the nearby, visible islands of Maewo and Pentecost, but also for the much lengthier journeys to distant islands which required considerable navigation skills. Today, while the art of canoe-building is still practised, only small canoes are used for fishing along the coastline close to home. The detailed knowledge of wind systems and navigation by the stars has been lost, with few people even knowing the names of the stars.

3 Spatial reference

When referring to the location of objects in space, or the direction of movement incorporated in an event, there are a number of different types of systems which languages employ. Many languages make use of an intrinsic frame of spatial reference, whereby the location of an object can be specified according to its relation to an inherent feature of an item with which it is being compared. This covers such expressions as, 'in front of me' or 'behind the house'. Humans, due to their asymmetry are thought of as having fronts, backs and sides, and certain objects can be thought of as having inherent features comparative to the human form. As these are inherent features, they do not change with a change in perspective; the front of a car will be the front of a car, no matter which angle one views it from.

'Behind the tree' however is not an example of intrinsic spatial reference, but rather relative reference. Using a relative system, the manner in which one describes the position of an object depends on the speaker's position in relation to it, and thus this description will change with a change in speaker's position. Trees, at least for speakers of English, and for that matter Ambae, do not have inherent fronts and backs, so it is not possible to refer to 'the back of the tree'. However in English, we *can* talk about the location 'behind the tree', and when referring to the position of an object in relation to a tree, the speaker views the tree anthropomorphically, and treats it as if it were facing him/her. Thus that part of the tree which is 'facing' the speaker is considered to be its front, and the part which is hidden is the back. It is thus possible to say, 'in front of/behind the tree', but the area of space which this refers to will change according to the viewer's perspective. In Ambae it is not possible to say 'behind the tree', as in this language one can only talk about a location 'in front of/behind something' for objects which have intrinsic fronts and backs. Thus a different frame of reference must obviously be used in order to express the relation which in English we would describe as 'behind the tree'. In Ambae, an absolute system is used in these situations, as there is no relative system operating in the language.

Many languages possess an absolute system, based on fixed, salient reference points in the speaker's environment. Our cardinal system, distinguishing north, south, east and west is an

absolute system, and many other languages possess a system such as this, which is ultimately based on the path of the sun. Other languages have an absolute system which is based on physical landmarks, such as upriver versus downriver, or landward versus seaward, or based on the direction of prevailing winds. While in English our cardinal system is in fact quite rarely used as a frame of spatial reference, and indeed many speakers, such as myself, cannot use this system very competently at all, in some languages this is the main type of spatial system used, such that all specifications of direction and location are stated using an absolute system. Absolute systems are prominent in Austronesian languages (see for example Senft 1997 and other papers in this volume), and it is the distinction of landward versus seaward which is salient in the absolute systems of the island-residing, seafaring peoples of Oceania.

All languages possess a system of spatial deixis, whereby the location of objects and their movement in space can be described in relation to the location of the speech act and its central participants, the speaker and addressee. Lyons (1977:637) has defined deixis as:

... the location and identification of persons, objects, events, processes and activities being talked about, or referred to, in relation to the spatiotemporal context created and sustained by the act of utterance and the participation in it, typically, of a single speaker and at least one addressee.

The important point is that deictic expressions are tied to the context of each individual speech act; they do not refer to fixed points or items in space, but rather identify the location of things relative to the speech situation. In terms of deixis, the deictic centre of any speech act is me, here, now, and any information which requires knowledge of the current context in order to be correctly interpreted by the people I am speaking to, is deictic information.

In Austronesian languages there is a tendency for a combination of intrinsic, absolute and deictic systems to be used as in the following:

- New Caledonian languages (Ozanne-Rivierre 1997);
- Longgu, a Southeast Solomonic language (Hill 1997);
- Muna, a Western Malayo–Polynesian language of Sulawesi (Van Den Berg 1997) and
- Taba, a South Halmahera language of Eastern Indonesia (Bowden 1997).

They do not tend to have a relative system.⁵ Thus while there are terms for left and right, front and back, above and under, in most Austronesian languages, these terms tend to only be used intrinsically. In fact, with respect to left and right, the use of these terms is often restricted to talking about the left and right sides of a person's body. While it is possible to say that someone is sitting on a person's left or right, in many Austronesian languages this is not the way that such a spatial relationship would normally be expressed—usually this would be expressed in absolute terms. For example, X is sitting on the uphill side of Y. Further, in most Austronesian languages left and right can never be used relatively to state the location of one object in relation to another. Thus one is not able to say, 'The child is to the left/right of the tree'. Nor, when giving directions can you direct someone to turn to the left or right. The absolute/deictic system tends to be used in all of these situations.

⁵ Or rather, they do not have what I have defined here as a relative system. There is some variation in the terminology used to speak about spatial reference (See e.g. Levinson 1996).

4 Directionals

In Ambae there is a set of spatial terms which involves interaction between an absolute and a deictic system. Grammatically, this spatial system is encoded by a set of forms which can function as demonstratives, absolute location nouns, and directional verbs. These forms constitute a separate word class which I refer to as ‘directionals’.

Referring to Table 1, note that there are nine terms distinguished. The primary distinction reflects the absolute system, in which direction on the vertical axis is specified, distinguishing motion across, on the level (*vano*), from motion up (*hage*), and motion down (*hivo*). This parameter also reflects a division of the landward – seaward axis, such that motion up equates with motion in a landward direction, motion down equates with motion in a seaward direction, and motion along equates with motion parallel to the coastline. In fact the distinctions are more complex than that, as I will describe in the following sections, but I shall first describe the deictic oppositions.

Table 1: The directionals

	across/traverse	up/landward	down/seaward
away (from deictic centre)	<i>vano</i>	<i>hage</i>	<i>hivo</i>
towards deictic centre	<i>vanai</i>	<i>hamai</i>	<i>himei</i>
towards addressee, past/future deictic centre	<i>vanatu</i>	<i>hagatu</i>	<i>hivatu</i>

5 Spatial relationship to participants in the speech act

As can be seen from Table 1, the primary distinction made by the directionals is an absolute distinction, and these forms are marked to specify direction relative to the participants in the speech act. The unmarked forms indicate location or motion in a direction away from the deictic centre, and we can observe the correspondence between these forms and both the forms marked for motion towards the deictic centre, and those marked for motion towards the addressee or the past or future deictic centre. The endings of the forms which specify motion towards the deictic centre are clearly cognate with the Proto Oceanic verb **mai* ‘come from’ (Ross 1988). It can be seen that reduced forms of the basic directional verbs have been suffixed with the directional, *-mai*, and some variation has occurred in the form of this suffix.⁶ Likewise, a directional marker, *-atu*, indicating both direction towards the addressee, and direction towards a deictic centre in either the past or future, has been suffixed to the directional verbs after the form has been reduced by loss of the final vowels.⁷

⁶ Note that the *-mai* suffix only occurs on these directional verbs, it does not appear as a productive suffix in Ambae. However, in certain dialects *mai* can occur as the verb ‘come’, unmarked for height relative to the speech act. This form also occurs as a type of baby talk in interacting with young children.

⁷ Note that this is a reflex of the PEO postverbal directional particle, **[w]atu*, which has been defined as meaning simply ‘away, hence’ (Pawley 1972). However, in none of the grammars of the languages which are described as having reflexes of this particle is any description of the particle’s use given. It is thus not

5.1 Motion away ø

The unmarked directionals are simple to define: *vano*, *hivo* and *hage* function to specify movement away from the speaker, or the deictic centre. However, they are also the forms used to refer to nondeictic movement. Thus in example (1), the first instance of the directional verb, *hage*, refers to motion away from the deictic centre, the place where the speakers are at the time of the speech act. In the second instance of this verb, the reference is to motion by a group of people from a place which has already been specified. The direction of motion from this point to the end point of the action is also *hage*, comparable with the direction from the position of the speech participants.

- (1) *Gide sao da=ni hage Maewo; gide tahi-ngaha Lolovoli,*
 1NSG.IN⁸ many 1NSG.INS=IRR go.up Maewo 1NSG.IN LOC-this Lolovoli
me-i ngire la-lavasigi tau Longana ra=ni hage vage.
 COM-PERS 3NSG REDUP-some DEN Longana 3NSGS=IRR go.up too
 'Lots of us will be going (up) to Maewo; us here at Lolovoli, and some of them from Longana will go too.'

The important difference between the unmarked forms and the *-mai* and *-atu* forms is that whereas these more complex forms focus on a specific destination for the motion, the destination is not specified for the unmarked forms.

5.2 Motion towards deictic centre -mai

As with the unmarked forms, the *-mai* forms can signify either motion towards the speaker or the deictic centre, or to a specified reference point. Thus in example (2) the use of the directional verbs is purely deictic; *hage* describes motion up away from the place where the speaker is at the time of the speech act, and *himei* refers to return down to this same point.

- (2) *Ale ne=hage lo sitoa ne=himei siseri.*
 CONJ 2NSGS=go.up LOC store 2NSGS=go.down:to.sp quickly
 'OK, go up to the store and come back again quickly.'

In example (3) however, the speaker is recounting a story, the action of which did not take place at the same place as the speech act. The place which has been established as the centre of the action in the story, however, comes to be considered like the deictic centre, and motion away from this point is described with the unmarked forms, whereas motion towards this

possible to determine whether the function of the reflex in Ambae is anomalous, or whether in fact this represents a more detailed reflection of how the form operated in PEO. This reflects the putative POC *[w,u]atu (Ross 1988).

⁸ The linguistic abbreviations used in this paper for morpheme glosses in examples are: 1SG – first person singular pronoun, 1NSG.IN – first person inclusive non-singular pronoun, 1NSG.EX – first person exclusive non-singular pronoun, 2SG – second person singular pronoun, 2NSG – second person non-singular pronoun, 3SG – third person singular pronoun, 3NSG – third person non-singular pronoun, ACC – accusative case article, AL – alienable noun suffix, APPL – applicative suffix, COM – comitative preposition, CONJ – conjunction, CONST – construct suffix, DEN – 'denizen of', DIR – suffix indicating motion towards addressee, or past/future deictic centre, DL – dual number particle, IRR – irrealis mood particle, LOC – locative case article, O – object enclitic, P – possessive suffix, PERS – personal noun article, REAL – realis mood particle, REDUP – reduplication, S – subject proclitic, TEL – telic aspect particle, to.sp – motion towards speaker

point is described using the *-mai* forms. This example also illustrates how the forms are used to describe motion towards the specified reference point even if this point is not reached. The subject went down to the sea, came back up to a point between there and the central place of the story, and then came all the way back up to this place.

- (3) *Bana nu hivo tubui mo vai no=mo solo i*
 because 1SGS:TEL go.down woman REAL make 1SGS=REAL wash PERS
netu-ne vunu no=mo hamai no=mo tau=e vunu
 child-3SGP then 1SGS=REAL go.up:to.sp 1SGS=REAL put=3SGO then
no=mo hamai.
 1SGS=REAL go.up:to.sp
 'Because I went down and the old woman made me wash her children and then I came up and left them and came up.'

Sentence (4) can be used to illustrate a further point about the use of the deictic forms which specify motion towards the deictic centre.

- (4) *Nu himei lolo bongi.*
 1SGS:TEL go.down:to.sp in night
 'I came down in the night.'

In the context surrounding this example, the speaker was telling the addressee how he had travelled from his village down to the addressee's village in the night. However, the conversation took place not at the addressee's village, but at a point level with this place, some distance along the road. In fact, this sentence could also have been uttered at a point further below the end point of the action, or even slightly above, as the direction travelled in the motion described by the sentence is on the same course as the line from the start point of the action to the place of the speech act. If however the speech participants were closer to the point of origin of the motion described, the *-atu* form must be used. Likewise, the *-atu* form would have to be used if the location of the speech act was a considerable distance beyond the location of the action described. The reasons for this will be clear after the description of the use of the *-atu* forms in §5.3.

5.3 Motion towards addressee, past/future deictic centre *-atu*

The use of the directional verbs suffixed with *-atu* is a little harder to define, and in fact it is not possible to describe a single function for this suffix. There are two distinct definitions of the *-atu* forms; 'motion towards the addressee' and 'motion towards a past or future deictic centre'.

Where the suffix is used to refer to motion towards the addressee, this can mean either within the context of the speech act, that is, to the place where the addressee is located at the time of the speech act, or to the place where the addressee was or will be located in the past or future. Thus in example (5) the speaker and addressee are located in the same general area, the addressee slightly further uphill from the speaker, and by using the directional verb, *hagatu*, the speaker means, 'I will come up to the place where you are now'. Note that only this form of the directional verb is acceptable in this context; if the unmarked verb, *hage*, were used, this would indicate movement away from both the speaker and the addressee. Furthermore, *hamai* would simply not be possible in this sentence (in this particular context),

as this signals direction towards the speaker, and it is clearly not possible for the speaker to move towards him/herself.

- (5) *Go=tu beno, na=ni hagatu! (*hage/*hamai)*
 2SGS=stay already 1SGS=IRR go.up:DIR (go.up go.up:to.sp)
 'Just stay there, and I'll come up to you!'

While in example (5) the movement specified is from the speaker's location to the precise spot where the addressee is located, the *-atu* forms can simply specify that the motion is in the addressee's general direction. An extreme example of this comes from a telephone conversation I once had with an Ambae speaker situated in Port Vila, while I was in Canberra. She was telling me how a group of dancers from Ambae had gone to a festival being held in the Solomon Islands. Australia, the Solomons and all overseas countries are *hage* from Vanuatu (6.5), but rather than using the unmarked form, *hage*, to describe their travel from Vila to Honiara, she used the *-atu* form (6), despite the fact that Canberra is twice as far from Vila as Honiara is, and in the opposite direction. This can be explained by the fact that as Australia, like the Solomons, is a foreign country, their travel was to the general area outside Vanuatu, which thus includes the place where I (the addressee) was located.

- (6) *Ra=mo hagatu Solomon.*
 3NSGS=REAL go.up:DIR Solomon.Islands
 'They have come up to the Solomons.'

Whereas examples (5) and (6) describe a situation in which the subject is moving towards the place where the addressee is located at the time of the speech act, the action can also refer to movement to a place where the addressee was located in the past or will be located in the future. Thus in (7) the speaker and addressee are located in the same place at the time of the speech act, and the sentence describes an action where the addressee will move to another place. The speaker is then stating that s/he will move to this same place after the addressee.

- (7) *Go=vano tomue, na=ni vanatu a-tagu.*
 2SGS=go first 1SGS=IRR go:DIR LOC-behind
 'You go first, I'll come after.'

Sentence (8) also means that the subject will move to the place where the addressee will be when the action described occurs. However, rather than meaning going to the place where the addressee is going now, it could be at any time in the future. Often in a sentence such as this, particularly when no location is mentioned, the location is understood to be the place of residence of the addressee. The reason for this inference is that the speaker is saying that s/he will go to the place where the addressee would be expected to be at this time, in other words, commonly the place where s/he lives.

- (8) *Na=ni hagatu da=ri toga bulu.*
 1SGS=IRR go.up:DIR 1NSG.INS=DL:IRR live together
 'I'll come up and we can live together.'

To further illustrate this point, if a group of people were telling me about their journey to Vila, then example (9) would be an appropriate statement only if I was not present in Vila at the time that they went. If, in fact, I was already in Vila when they arrived, then the *-atu* form must be used, otherwise I may be likely to respond, 'But I was there too!'

- (9) *Ga=u hage Vila lo Noveba huri na At Vestivol.*
 1NSG.EXS=TEL go.up Vila LOC November PURP ACC arts festival
 'We went to Vila in November for the Arts Festival.'

In example (10) there are two instances of the verb *hagatu*. This is an interesting example which demonstrates the two contrasting meanings of the suffix: the first use refers to movement by the addressees towards the speaker's place at the time when the action will take place in the future; and the second use describes the motion of the speakers towards the place where the addressees will be—their place of residence. Note that the unmarked form, *hage*, would not be acceptable in the response, as it would simply indicate motion away from the location of the speech act, and to a place other than where the addressee will be at the time of the action of the verb.

- (10) *Ne=ri hagatu mavugo.*
 2NSGS=DL:IRR go.up:DIR tomorrow

*Garea ga=ri hagatu (*hage).*
 good 1NSG.EXS=DL:IRR go.up:DIR (go.up)
 'You two come up tomorrow. OK, we'll come up.'

Contrast example (10) with (11), in which both uses of the verb *hage* specify movement away from where the speech participants were when the sentence was uttered (although it could also have referred to motion away from a specified reference point).

- (11) *Ne=ri hage mavugo. Garea, ga=ri hage.*
 2NSGS=DL:IRR go.up tomorrow good 1NSG.EXS=DL:IRR go.up
 'You two go up tomorrow. OK, we'll go up.'

The previous examples have all illustrated motion to the future deictic centre, but note that the use of these forms can describe motion to the place which is the deictic centre at any time other than that of the current speech act, therefore in either the future or the past.

In such examples, the current position of the speech participants is not relevant; the specification of direction of movement relates to action in either the past or the future, relative to the stated reference point, that is, the position of the participants at the time of the event. Thus in example (12), the speaker and the addressee are on Ambae, but the speaker is describing an occasion when she was in Vila, dancing at a festival. A group of people from Maewo were also at the festival, and the utterance describes how they moved down to the dancing ground where the people from Ambae were, and joined them in the dancing.

- (12) *Ngire tau Maewo ra=mo hivatu ra=mo bulu gamai.*
 3NSG DEN Maewo 3NSGS=REAL go.down:DIR 3NSGS=REAL join 1NSG.EX
 'Those from Maewo came down and joined us.'

Sentence (13) is an expression which is commonly uttered when walking along a path, if someone you are with stops in front of you and you want them to hurry along. You then direct the person to move forward using a motion verb in the *-atu* form. Therefore, despite the fact that the speaker wishes to direct the subject away from the current deictic centre, the position where both the speaker and the addressee are currently located, the *-atu* form emphasises the fact that they are both moving towards a place which will subsequently be the deictic centre. Thus although this situation is one where an unmarked form could be used, the *-atu* form with its meaning in this context 'towards the future deictic centre' adds a different focus to the action, signalling that the speaker wants the addressee to move forwards as this is the place

where the speaker also wants to be. If a simple unmarked form were to be used in this context, it would not be entirely clear whether the speaker was intending to follow the addressee, and in fact it would usually indicate that s/he would not.

- (13) *Go=hagatu!*
 2SGS=go.up:DIR
 ‘You go up (first)! (i.e. lead)’

5.4 Comparison of deictic oppositions

In order to ensure that the difference in use of the three contrastive sets of forms is clear, I take an example where all three forms are possible in the same frame, to illustrate the different meanings which would then be understood. Sentence (14) describes a situation where a group of people travelled down to a place where a mourning feast in honour of a dead person was being held. If the verb used in this example is the unmarked *hivo*, then this implies that the feast was held at a place which is located further down from the place where the speech participants are at the time of the speech act, and/or down from the place that the people came from. It is also understood that neither the speaker nor the addressee were at the feast at the time when all the people came, and nor is it their place of usual residence. It is, however, possible that either of the speech participants also went to the event, although they would have gone either at the same time as or after the people referred to. Alternatively, if *himei* is the verb used, the context which relates to the sentence is one in which either the event took place at the same place as the speech act, or at a different place, but one which is at a similar level to the place where the speakers are now. In either of these cases the place would be situated down relative to the place where the actors in the event came from. Lastly, there are a few possibilities for the context which could surround the sentence if the form used was *hivatu*. The event would have taken place at a location other than one which is at the centre of the speech act, and it would have been a place where the speaker, the addressee or both were at the time of the event. Typically it would mean that it was one or the other’s place of residence, but it could as well mean simply that they were also present at the event, and were there before all the other people came, as for example if they had been helping to prepare for the event. This demonstrates an interesting contrast. If either of the speech participants attended the event, either *hivo* or *hivatu* could be used. If *hivo* was used it would imply that they, like the other people, were also going to the event; whereas if *hivatu* were used then the implication is that they were already present at the location when the other people arrived.

- (14) *Sinobu* *ra=u* *hivo/* *himei/* *hivatu* *lo* *bongi*
 many.people 3NSGS=TEL go.down go.down:to.sp go.down:DIR LOC death.feast
 ‘Lots of people went down to the mourning feast.’

6 Specification of vertical/landward – seaward axis

Moving now to the specification of the absolute system, one can see from Table 2 that the situation is much more complicated than simply specifying motion uphill versus downhill versus along on a level plane. In different contexts, different oppositions are relevant.

Table 2: Specification of the vertical/landward – seaward axis

<i>vano</i>	<i>hage</i>	<i>hivo</i>
across	up	down
parallel to land	up (in air)	down (to ground or in sea)
parallel to shore (on land)	inland	seaward
parallel to shore (at sea)	landward	out to sea
E or W (other side of is.)	NE (along coastline)	SW (along coastline)
Malakula (NE-SW axis)	S or E (upwind)	N or W (downwind)
	all other countries	
to side (internal)	in front (internal)	behind (internal)

6.1 Vertical axis: across/up/down

Ambae is a mountainous volcanic island, with very few flat areas, and thus a location can generally be specified with respect to another location in terms of its relative height. Movement from a village up away from the sea to a village some distance downhill, must be specified as *hivo* ‘motion down from the deictic centre’. It is not acceptable to refer to this motion as simply *vano* ‘motion along’. That is, it is not correct to assume that *vano* is an unmarked form, referring to motion in a nonspecified direction, and that there would be a choice, as in English, between saying, for example, either ‘go down to the sea’ (*hivo*), or simply ‘go to the sea’ (*vano*). As the semantically anomalous sentence (15) suggests, it is not possible to use the verb *vano* to refer to motion towards the sea. Rather, if in any given context it is appropriate to specify motion up or down, then this direction must be specified, no matter how slight the incline. In an example such as (16), where the house may be only a matter of metres away from the participants of the speech act, due to the fact that it is slightly uphill from their position, movement to this location must be referred to using the directional verb *hage*, specifying ‘motion up from the deictic centre’. The distinction of relative height will thus always be made for any direction of movement or location, regardless of the distance involved; the specification of height is relevant in every context.

(15) **Da=vano lo tahi!*

1NSG.1NS=go LOC sea

‘Let’s go to the sea!’

(16) *Go=hage lo vale, go=maturu.*

2SGS=go.up LOC house 2SGS=sleep

‘Go up to the house and sleep.’

Considering the topology of the environment on Ambae, the forms specified for direction level to the deictic centre are actually the ones less commonly used. An example of a situation where *vano* is used would be in example (17), where motion crossing to the opposite side of the creek is described, and this involves a movement which is neither up nor down.

- (17) *Ga=u vano tavalu wai.*
 1NSG.EXS=TEL go side creek
 'We went to the other side of the creek.'

While *vano* is the form marked for direction across or level, it is also in fact the form which is used when direction is not known. Thus, it is used when asking where someone has gone to (as in example (18)) or come from (19).

- (18) *Bui u va⁹ logo?*
 Mum TEL go where
 'Where has Mum gone?'

- (19) *Ne=vanai logo?*
 2NSGS=go:to.sp where
 'Where have you (all) come from?'

As may be expected, the directional verbs *hage* and *hivo* can also be used to express motion up and down on the vertical plane as opposed to motion along on the surface. Thus in example (20) a movement to a place up on top of something is expressed using *hage*, as is motion up in the air above the ground (21). Likewise, *hivo* refers not only to movement from a place up high down to the ground (22), but also motion descending down into the sea (23).

- (20) *Mo kalo mo hage lo hune-i vale.*
 REAL climb REAL go.up LOC roof-CONST house
 'She climbed onto the roof of the house.'

- (21) *Da=mo olo da=mo hage lo ulu-i dodo.*
 1NSG.INS=REAL fly 1NSG.INS=REAL go.up LOC above-CONST cloud
 'We flew up above the clouds.'

- (22) *Go=hivo vine!*
 2SGS=go.down down
 'Get down! (e.g. out of a tree.)'

- (23) *Gu hivo gu sarovo? Hate, u bue lawagi.*
 2SGS:TEL go.down 2SGS:TEL arrive no TEL deep very
 'When you went down did you reach (the bottom)? No, it was too deep.'

6.2 Inland/seawards

Considering that land rises up directly from the sea, it is not surprising that locations which are inland are considered to be 'up' from the deictic centre, and locations which are towards the sea are 'down'.

⁹ Note that this reduced form of *vano*, *va* is that which regularly occurs in interrogative clauses.

- (24) *Mo=vo na hivo na ga-garu lolo tahi.*
 REAL=say 3SG go.down 3SG REDUP-swim in sea
 'He wanted to go down and swim in the sea.'

- (25) *Da=hivo lo tahi da=si-siu!*
 1NSG.INS=go.down LOC sea 1NSG.INS=REDUP-fish
Hate, da=ni mas hage aute huri na qeta.
 no 1NSG.INS=IRR must go.up up.in.bush PURP ACC taro
 'Let's go down to the sea and fish!'
 'No, we must go up to (the gardens in) the bush to get some taro.'

While motion away from the sea is associated with *hage* and towards the sea with *hivo*, movement along the coastline is associated with *vano* as in example (26).

- (26) *Ra=ni vano ra=ni huri lolo one.*
 3NSGS=IRR go 3NSGS=IRR follow LOC beach
 'They will go along the beach.'

In most situations on Ambae, downhill and towards the sea will be the same direction, and thus it may not be possible to state in a given context what direction specifically *hivo* is referring to, as the direction is one and the same. There are also very few flat places on Ambae, so it is difficult to test whether or not there really is an opposition relating to direction with respect to the sea, or if in fact this is coincidental. However, when one walks with an Ambae speaker through the few streets of Luganville, which is a small town on the coast of Santo island, we can see the opposition of inland versus seawards clearly demonstrated. The central part of town is flat, and turning through the streets one must go *hage* 'up' a street if it is away from the sea, *hivo* 'down' towards the sea, and *vano* 'across' if it is parallel to the shore. Likewise, a group of people playing football on a level playing field will say, 'pass the ball here', *hamai* or *himei*, meaning in an inland or seaward direction towards the speaker. As the area is flat, obviously a distinction on the vertical axis is not relevant, but the speakers are aware of the position of the sea and use this as a reference point.

6.3 Towards shore/out to sea

The specification of direction with respect to the sea is extended to describing movement between the land and sea. When at sea, movement towards the land is equated with movement inland or upwards and is thus *hage*, whereas movement further out to sea is equated with movement towards the sea and a downwards motion, and is thus described as *hivo*. Therefore, if one is on a ship in the harbour and another ship is heading towards your ship from further out to sea, then you would say, *Sip mo hamai* 'The ship is coming (up)'. Likewise if you were standing on the shore and the ship was coming in, the same statement would apply. So when a boat travels into the harbour, it travels *hage*, as in example (27), as does the wind blowing ashore from out at sea (28). If, however, a ship was coming from a position closer to the shore towards the ship which you were on, then you must say, *Sip mo himei* 'The ship is coming (down)'. This direction of motion is illustrated by (29), which describes swimming further away from the land, out to sea.

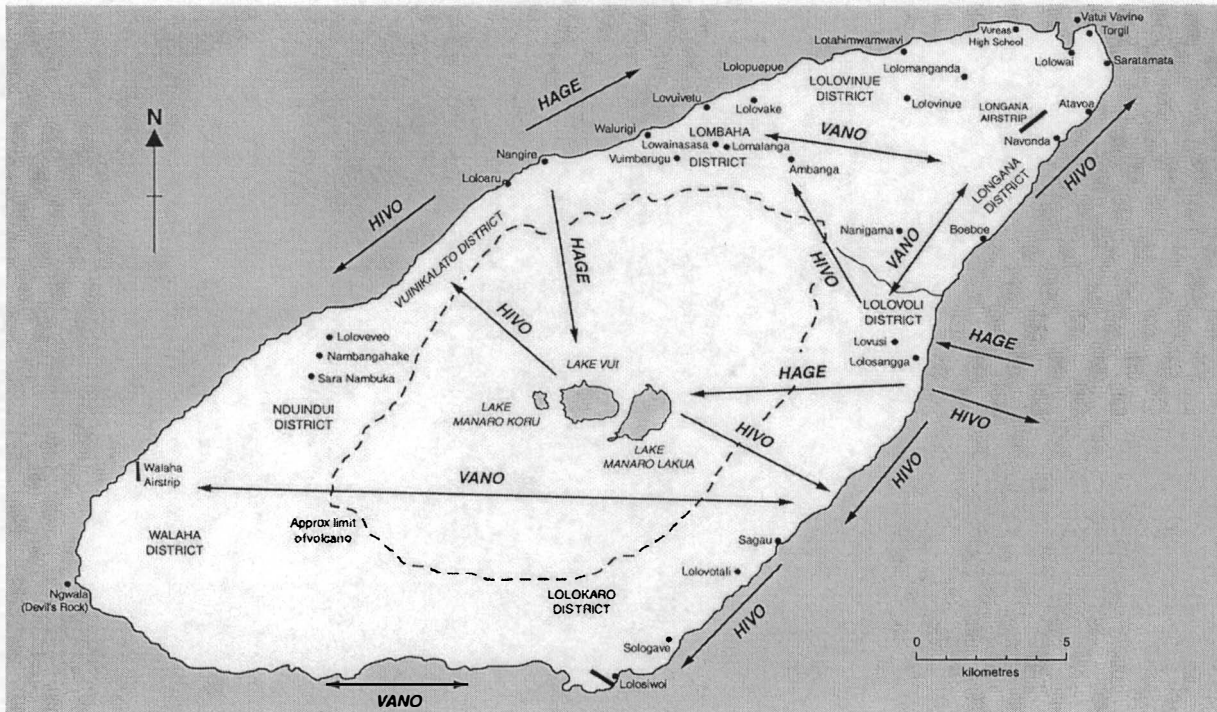
- (27) ... *ra=mo* *hage* *vovohoi lolo halea* ...
 3NSGS=REAL go.up straight in harbour
 '... they would go straight into the harbour ...'
- (28) *Dueliu mo* *hamai* *lolo gowana Pentecost Maewo*.
 wind REAL go.up:to.sp in open.sea Pentecost Maewo
 'The "dueliu" wind comes up from the open sea between Pentecost and Maewo.'
- (29) *Vo go=ni geru go=ni* *hivo* *vagahao, tahi vi=ni*
 if 2SGS=IRR swim 2SGS=IRR go.down far sea 3SG.IRRS=IRR
weli=go vi=ni *hivo* *me=go vagahao*.
 take=2SGO 3SG.IRRS=IRR go.down COM=2SGO far
 'If you swim out a long way, the sea will take you and carry you out a long way.'

Movement on the sea, parallel to the coastline, as on the shore, is *vano* as in example (30). Further, if one is on a ship in the middle of the sea and the land cannot be seen, and the speaker is unaware of the ship's position with respect to land, then motion in any direction is described as *vano*.

- (30) *Da=ni* *hage* *samwegi varea, da=vano* *lo mata-i Wai Rigi*.
 1NSG.INS=IRR go.up not.able outside 1NSG.INS=go LOC eye-CONST creek Rigi
 'We won't be able to get (up) out (of the water), let's go along to the mouth of Rigi Creek.'

6.4 Movement to other parts of Ambae

When travelling around Ambae, a number of factors must be considered when specifying direction of movement. When travelling to a place which is close by, one will consider its position relative to the sea, or its position up or downhill in relation to the centre of reference. When travelling greater distances however, how does one refer to places when the difference in relative height is not significant? In addition, what if both places are on the coast? The same directional forms are still used, so what factors determine which directions the terms specify? If one is travelling to somewhere a considerable distance away, the direction either relative to the sea or in terms of physical height may not be either immediately obvious or particularly significant, but these are the factors which are considered first. Thus, if one is travelling from a village some distance from the coast to a village by the sea, then this movement will always be *hivo*, regardless of the direction being travelled in, and whether it is 200 m or 20 km away. Likewise, if one travels to a place further up the volcano, then this must be *hage*. It is only when one travels to places which are a considerable distance away, or on a similar level, that different comparisons need to be made, and then a choice is made based on two factors. Firstly, a clear division can be noted between the two 'sides' of the island (see Map 2). This distinction can be seen to be due to the shape of the island, with its two long sides, but more significantly, the north-western side of the island is the lee side, and the south-eastern side is the weather side, the trade winds coming from the south-east. Travel from one 'side' of the island to the other is always reported as *vano*, as this can be equated with movement 'across' the island as in example (31).



Map 2: Directionals used for movement within Ambae

- (31) *Langi mo vanai lo westen pat.*
 wind REAL go:to.sp LOC western part
 'The wind comes from the west.' (Stated at Lolovoli in the south-east.)

When one is moving 'up' and 'down' the coast however, there is a division made on the axis dividing north-west and south-east, such that anywhere following the north-eastern line of the island is considered to be 'up' and movement in a south-west direction is 'down'. To illustrate this with examples from a few different areas of the island, take Lolovoli on the eastern side of the island. Lolovoli is only a few hundred metres from the coast, but nevertheless it is up quite a steep hill from the sea, and as most villages are closer to the sea, then movement to most places is *hivo*, irrespective of the direction travelled in. Thus Lolowai and Saratamata to the north-east, Redcliff to the south-east, and Walaha to the south-east on the other side of the island, are all *hivo*. The only places which are *hage* from Lolovoli are those places which are located physically higher up the mountain, such as the village of Ambanga to the north-west, and Lake Manaro, a crater lake in the volcano. Nduindui, located on the other side of the island is *vano* as in example (32), as is Longana, because it is quite close to Lolovoli, at the same level. These variations have made it difficult to determine what the exact system for specification of direction is within Ambae.

- (32) ... *tahi-ngaha lo duvi tano-da tahi-ngaha da=ni veve*
 LOC-this LOC end land-1NSG.INP LOC-this 1NSG.INS=IRR say
da=ni vano lo tavalu-gi Nduindui ...
 1NSG.INS=IRR go LOC half-AL Nduindui
 '... here at the end of our land here, if we want to go to Nduindui on the other side ...'

When starting from a place on the coast however, it is easier to determine what factors come into play. To take an example from Nduindui on the west coast as in example (33), we see the importance of absolute direction addressed.

- (33) *Niko ngaha go=ni toga bibi tahi-ngaha Nduindui, ale niko*
 2SG this 2SGS=IRR live tight LOC-this Nduindui CONJ 2SG
ngaha go=ni hage Vuinikalato, ale niko ngaha go=ni hage
 this 2SGS=IRR go.up Vuinikalato CONJ 2SG this 2SG=IRR go.up
Walurigi, niko ngaha go=ni hage Lombaha, ale niko ngaha
 Walurigi 2SG this 2SGS=IRR go.up Lombaha CONJ 2SG this
go=ni vano Longana, niko ngaha go=ni vano lo tavalu-gi,
 2SGS=IRR go Longana 2SG this 2SGS=IRR go LOC side-AL
ra=vo, Lovuiniimatui.
 3NSGS=say Lovuiniimatui
 'You are going to stay here at Nduindui, and you are going to go up to Vuinikalato, and you are going to go up to Walurigi, and you are going to go up to Lombaha, and you are going to go across to Longana, and you are going to go across to the other side, which they call Lovuiniimatui.'

As Lombaha is also inland from Nduindui, this may be the reason that it is *hage*, and Vuinikalato, while on the coast, is perched on top of cliffs. However, Walurigi is a relatively flat place by the sea, and the only reason this could be considered *hage* from Nduindui is that it is to the north-east. Thus, we begin to see distinctions made on a basis other than relative height, and position in relation to the coast, as such contrasts are no longer valid.

To sum up the factors that are involved in determining which directional will be used for travel within Ambae, and in particular, to those more distant places, the various contrasts are addressed in the order listed below.

- Is the place up, down or level from here?
- Is the place towards the sea, inland or parallel to the coast?
- Is the place on the opposite side of the island (to the east or west)?
- Is the place to the north-east or south-west?

In each case, if the opposition is not relevant to the particular situation, then the secondary factors are addressed. Relative height is always the most important factor, and only if no clear decision can be made based on height, or position relative to sea, will a decision be made in terms of absolute direction. While there is a distinction made based on the north-west/south-east axis, a decision is made according to this factor only after all other factors have been taken into account.

6.5 Movement to other islands

The distinctions made when travelling beyond Ambae to other islands in Vanuatu, and further afield to other countries, are more straightforward and simple to describe than the situation which occurs when describing movement within the island of Ambae, although an interesting difference can be observed. Naturally, divisions of height, and position relative to the sea and land are no longer relevant when moving across the sea to other islands, but nevertheless, the same directional forms are used. Rather than relating to a contrast in height relative to the deictic centre, there is a division made on the north-east/south-west axis, and all islands to the south and east are considered to be *hage* 'up' whereas those to the north and west are *hivo* 'down' (see Map 1). Remember that the absolute distinction made when describing motion within the island was between those places to the south-west, as compared with places to the north-east. Note that the distinction made for travel between islands is on a different axis, with islands to the south and east distinguished from those in the north and west.¹⁰

- (34) ... *ra=u* *walau-gi na* *aka-ra* *ra=mo* *hage* *Maevo*,
 3NSGS=TEL run-APPL ACC canoe-3NSGP 3NSGS=REAL go.up Maewo
sege ra=mo *hage* *Pentecost*, *sege ra=mo* *hivo* *Santo*.
 or 3NSGS=REAL go.up Pentecost or 3NSGS=REAL go.down Santo
 '... they took their canoes and went up to Maewo, or up to Pentecost, or down to Santo.'

¹⁰ While this would seem to be a curious variation in the division of absolute direction, this exact difference has also been observed in *Tukang Besi*, a Western Austronesian language of Sulawesi, Indonesia (Donohue 1995).

- (35) ... *vataha na vanue, mwere mo tavuigi Aneityum mo hivo*
 every ACC island like REAL start Aneityum REAL go.down
mo dadari Banks ...
 REAL reach Banks
 '... every island, starting from Aneityum and going down as far as the Banks ...'

While we can conveniently describe this spatial division in terms of the familiarly recognised cardinal direction points, obviously this is not how the distinction developed. It would seem plausible that the reason for this division is related to the shape of the island, and the direction of the winds. The people of Ambae were originally very much a seafaring people, and the south-east side of the island is the weather side, the trade winds coming from this direction. Wind direction is very significant for people of the sea, and it is easy to see how a division could develop distinguishing the direction from which the wind blows, with the direction followed when travelling into the wind. It does not seem unreasonable to suggest that as people would travel away from the island into the wind, then this direction could be equated with going up, as 'up' is often equated with what is in front or forwards, and 'down' is commonly thought of as being behind. Suffice to say that this is only speculation, and we can simply describe the directional terms which are used for referring to travel between islands as they are in use today. To speculate further however, it may also be possible that the reason the south-east direction is equated with 'up' is that this was the direction people originally travelled in when spreading into the Pacific. I have suggested this movement to new places was considered to be going 'up', whereas what was behind and known, the places where the people had come from, were 'down'.¹¹ This suggests a reason for the difference between the axis which operates on the island, and that which operates between islands. Clearly, while we may discuss the axes in terms of cardinal points, on the island the axis is based on the coastline which runs south-west to north-east, and when travelling across the sea it appears that the axis is based on the prevailing winds.

There is only one island which lies exactly on the axis which divides islands in the south-east from those in the north-west—Malakula, to the south-west. This is further confirmation of the division, as Malakula is the only island to which one travels *vano*, and if the part of the island is specified, one travels *hage* to those places in the north-west of Malakula, and *hivo* to places in the south-east.

- (36) ... *gide tahi-ngaha da=veve vo da=vano Malakula ...*
 1NSG.IN LOC-here 1NSG.INS=tell say 1NSG.INS=go Malakula
 '... us here say that we want to go to Malakula ...'

There is no directional division related to movement to other countries; they are all referred to as *hage* 'up' from Vanuatu, irrespective of the direction in which they lie. Australia to the west, Fiji to the east, and the Solomon Islands to the north are all *hage*. The reasons for this can only be guessed at, but as speculated above, perhaps movement to the unknown is equated with moving forwards, and thus going 'up'. Bubandt notes that a similar situation arises in Buli (Indonesia), where not only are all overseas countries thought of as being 'up', but also most seemingly 'foreign' places within Indonesia, outside the immediate Buli area. He observes that '[t]he "upward" domain is thus both socially and morally distinct from the rest

¹¹ Horridge (1995) discusses the argument that the early Austronesian explorers discovered new land by sailing 'upwind' in a (south-)east direction.

of social space: it is the foreign, the distant, the invitingly prosperous yet treacherous unknown' (Bubandt 1997:148).

- (37) *Go=ni hage Australia/ Fiji/ Solomons?*
 2SGS=IRR go.up Australia Fiji Solomon.Islands
 'Are you going to go to Australia/Fiji/the Solomon Islands?'

6.6 Internal movement: front/back/side

Lastly, looking at movement within an enclosed space such as in a house or on a ship, the same directional verbs are still employed, but there are two different systems operating. In a building such as a church, the place of focus where the pulpit is located is the front, as is the bow of a ship, which is the part which is heading forwards. Movement to the front is equated with *hage* 'up', towards the back is *hivo* 'down' and to the side is *vano* 'across'. Thus sentence (38) was uttered in a church, with a young boy being told by a woman to go and sit on the other side of the aisle with the men, and (39) refers to going 'down' to the stern of the ship. However, some buildings cannot be said to have a definite front and back (at least internally; in Ambae the single door of a house is always located at the 'front'), and basically, inside houses, where the floor is flat, people relate the position of objects within the room according to the lay of land outside. Therefore, if a house is positioned on a hill, and someone wishes to state the location of an object which is in an equivalent position to the uphill side of the house outside, then this is *hage* 'up'.

- (38) *Go=vano go=toga me-na mwera ngire.*
 2SGS=go 2SGS=sit COM-ACC man 3NSG
 'Go and sit with the men.'
- (39) *No=mo rau hivo lo boro-gi bana tangaloi ngire*
 1SGS=REAL not.want go.down LOC stern-AL because people 3NSG
ra=mo lue.
 3NSG=REAL vomit
 'I don't want to go down to the stern because the people (down there) are vomiting.'

7 Variation in system in different word classes

In the previous sections, the absolute/deictic system of spatial reference has been described using the verbal forms to exemplify the meanings of the oppositions. In the following section, any variation in use across the different word classes will be described. The same basic forms occur as not only directional verbs, but also demonstratives, and absolute location nouns. However, there are some differences in both the forms and function within the different word classes. There are also other members of the subclass of absolute location nouns, and both these and relational location nouns are discussed below.

7.1 Demonstratives

There are two opposing demonstratives: *ngaha* 'this' and *ngihie* 'that', plus the directionals can be prefixed with the demonstrative formative, *gi-/ngi-*. There is no difference in the meaning of these two forms, and the choice of use is arbitrary. These demonstratives can occur either as pronominals as in example (40), or modifying the head noun of a noun phrase (41).

- (40) *Ra=ni weli=e ngi-vano.*
 3NSGS=IRR take=3SGO DEM-across
 'They'll take those ones over there.'

- (41) *Go=lehe na boe ngi-hivo ...*
 2SGS=see ACC pig DEM-down
 'Look at that pig down there ...'

As with the directional verbs, the same distinctions are still made with respect to location relative to the participants of the speech act with the unmarked and *-mai* forms, but the *-atu* forms do not occur as demonstratives. Thus in example (42), the demonstrative indicates that the object (in this case a pig) is located level with the speaker and closer towards her/him than perhaps another item, whereas the unmarked forms, as in (41), indicate something which is located away from the speaker. A sentence such as (43) is not grammatical.

- (42) *Na=ni bubu-si ngi-vanai.*
 1SGS=IRR shoot-APPL DEM-ACROSS:to.sp.
 'I'll shoot that one closer towards me.'
- (43) **Go=ni weli na gineu ngi-vanatu.*
 2SGS=IRR take ACC thing DEM-across:DIR
 'If you come, bring that thing there near you.'

These demonstratives can be reduplicated to indicate that the location of the object is either a greater distance away (with the unmarked forms), or considerably closer to the speaker (in the case of the *-mai* forms). Sentence (44) is part of a set of instructions from the speaker, trying to indicate to the addressee where the specified object is located. When the addressee points to an object located up the hill from both the speaker and the addressee, the speaker responds with (44), stating that it is not the one the addressee was indicating, but one even further uphill than that. When a demonstrative in the *-mai* form is reduplicated, this indicates that the specified item is closer to the deictic centre, or specifically, to the speaker. In (45) the addressee is up in a tree picking mangoes, and the speaker instructs the addressee to pick the ones which are located down on the lower limbs, closer to the speaker, who is standing on the ground.

- (44) *Hate, ngi-hage-hage.*
 no DEM-REDUP-up
 'No, that one further up there.'
- (45) *Go=bitu ngi-him-himei.*
 2SGS=pick.fruit DEM-REDUP-down:to.sp
 'Pick that one down here closer to me.'

Note that while the demonstratives generally occur with the demonstrative formative *ngi-/gi-* irrespective of whether the demonstrative is in pronominal or modifying function,

ngaha 'this' occurs in the unmarked form as a nominal modifier, and prefixed with *ngi-/gi-* it is used as a demonstrative pronoun.

- (46) A *gineu ngaha a gineu garea.*
 NOM thing this NOM thing good
 'This thing is a good thing.'
- (47) *Na=ni teve ngi-ngaha ...*
 1SGS=IRR cut DEM-this
 'I will cut this one ... '

7.2 Absolute location nouns

The directionals also occur, underived, as absolute location nouns, both unreduplicated as in example (48), or, like the demonstratives, reduplicated to specify a greater distance (49). Absolute location nouns function as clausal adjuncts, to specify the location of the event described by the clause.

- (48) *No-ku tanga mo dule tau hivo.*
 CL.GEN-1SGP bag REAL hang LOC down
 'My bag is hanging down there.'
- (49) *Vui-ni matui u soi tau hivo-hivo.*
 trunk-CONST coconut TEL fall LOC REDUP-down
 'A coconut tree fell down way down there.'

When functioning as absolute location nouns, the directionals can also be suffixed with the distal suffix, *-lehe*, to indicate a location a greater distance away. This suffix is attached to the unmarked forms; it cannot co-occur with the *-mai* and *-atu* forms. This suffix can only attach to the directionals, not to forms in any other word class.

valehe 'over there'
hagelehe 'up there'
hivolehe 'down there'

- (50) *Mo vanai va-lehe.*
 REAL come across-DIST
 'S/he came from (way) over there.'

These forms are used to refer to places a greater distance away than those specified by the simple locational nouns. They cannot be used, for example, to refer to a place that is close by and visible as in example (51). In (52), even if this question were addressed to me out of context, it would be immediately obvious that the place being referred to was Australia, the place way up there (where I live). The unmarked form, *hage*, would not be possible in this context, but could be used to refer to living in a place located 'up' from the place of the speech situation, but within the island. This locational noun is regularly used to refer to both Australia (and, less regularly in my presence, other countries) and Vila, two distant places which will be immediately recognised from context, without mentioning the place name. When on other islands, people regularly refer to Ambae as simply *hagelehe* or *hivolehe*, without any ambiguity. Alternatively, in (53), the form, *hivolehe*, would not be possible unless the ball were to be thrown a great distance.

- (51) *Ne=mwos-mwoso vano/ (*va-lehe).*
 2NSGS=REDUP-play across.there across-DIST
 ‘Play over there.’ (indicating a place not far away)
- (52) *Go=mo toga hage-lehe (*hage) go=mo gani qeta?*
 2SGS=REAL live up-DIST up 2SGS=REAL eat taro
 ‘When you live up there (i.e. Australia) do you eat taro?’
- (53) *Go=tuli na moli tau hivo (?hivo-lehe).*
 2SGS=throw ACC ball LOC down down-DIST
 ‘Throw the ball down there.’

Compare examples (54) and (55) where the opposing forms demonstrate the difference between referring to places of greater and lesser distance from the deictic centre.

- (54) *Ga=mo himei hage-lehe.*
 1NSG.EX=REAL go.down:to.sp up-DIST
 ‘We’ve come down from up there (a long way).’
- (55) *Ga=mo himei (tau) hage.*
 1NSG.EXS=REAL go.down:to.sp LOC up.there
 ‘We’ve come down from up there (not very far).’

7.2.1 Other absolute location nouns

Apart from the directionals, there are other forms which are members of the absolute location nouns’ class. Place names are all absolute location nouns as in example (56), and there are two other subsets in this class. There are several forms which can be used to express the simple opposition between ‘here’ and ‘there’, these are shown in Table 3.

- (56) *Ra=ru mo hage Maewo.*
 3NSGS=DL REAL go.up Maewo
 ‘The two of them went to Maewo.’

Table 3: Absolute location nouns distinguishing locations ‘here’ and ‘there’

<i>aehe</i> ‘here’ (at this place, just referred to—anaphoric)	<i>taehe</i> ‘there’ (at that place just referred to—anaphoric)
<i>tau</i> ‘here’	<i>tahu</i> ‘there’
<i>tahingaha</i> ‘here’	
<i>hano</i> ‘here’	

As can be seen there are only two forms distinguished on the distal pole, one of these forms can only be used anaphorically, while the other can be used both anaphorically and to refer to the current context. On the proximal pole however, there are four different terms: *aehe* is the proximal counterpart of the anaphoric *taehe*, but the other three forms can all be used anaphorically and within the context of the speech act and exhibit no difference in meaning or use.

- (57) *Ale Vile mo maraga mo hivo mo toga Lolovarivu, mo*
 CONJ Vile REAL get.up REAL go.down REAL live Lolovarivu REAL
mate aehe.
 die here

‘So then Vile went down and lived at Lolovarivu, and he died at this place.’

- (58) ... *ra=mo lehe na Manaro. Siu tangaloi sao ra-mo*
 3NSGS=REAL see ACC Manaro CONJ people many 3NSGS=REAL
hage ra=mo tu ra=mo maturu taehe.
 go.up 3NSGS=REAL stay 3NSGS=REAL sleep there
 ‘... they see Manaro. So many people go up and stay and sleep there.’

The other set of absolute location nouns are used to indicate oppositions such as: ‘behind’ seen in example (59) as opposed to ‘in front’; ‘up high’ (60) as opposed to ‘down low’; and ‘outside’.¹² An exhaustive list of these absolute location nouns is shown in Table 4. Note that many of these forms have relational noun equivalents, as discussed below in §8.

Table 4: Absolute location nouns

<i>aulu</i>	‘up high, on top’
<i>vine</i>	‘down low’
<i>atagu</i>	‘behind, at the back’
<i>amue</i>	‘in front, at the front’
<i>aute</i>	‘up in the bush’
<i>alau</i>	‘down by the sea’
<i>varea</i>	‘outside’
<i>vagahao</i>	‘far away’

- (59) ... *Ra=mo tau=e atagu ...*
 3NSGS=REAL put=3SGO behind
 ‘... they put it behind ...’
- (60) ... *ra=mo toga aulu lo baka.*
 3NSGS=REAL sit up.high LOC banyan
 ‘... they were sitting up high in the banyan tree.’
- (61) *Tama-na mo toga varea, lo mata-i vale-ra.*
 father-3SGP REAL sit outside LOC eye-CONST house-3NSGP
 ‘His father sat outside at the doorway of their house.’

Note the two forms, *alau* and *aute*, distinguish locations which are near the sea, as seen in example (62), from those inland (63). This distinction is one which is commonly made in Austronesian languages whose speakers live on small islands, where there is an important distinction made between coastal and bush locations, in terms of where people live and what types of activities are performed in different places. Coastal peoples are more likely to rely on the sea as a source of food, whereas food gardens are more likely to be planted further inland,

¹² Note that while *varea* ‘outside’ is an absolute location noun, *lolo-* ‘inside’ is a relational noun.

‘up in the bush’. In most areas of Ambae, people do not live directly adjacent to the sea, and the seashore tends to be used merely as a supplementary source of food. As a general rule, people only use the word *alau* to speak of those who live closer to the sea than is the norm. The form *aute* is commonly used, as people generally plant their crops uphill and inland from the villages. When this form is used in a sentence such as example (64), the addressee will know that the people have gone up in the bush to their gardens, although this is not explicitly stated.

- (62) *Gamai natu-i alau.*
 1NSG.EX offspring-CONST down.by.sea
 ‘We are coastal people (lit. children of the place by the sea).’
- (63) *Da=mo rivu qeta aute.*
 1NSG.INS=REAL plant taro up.in.bush
 ‘We plant taro up in the bush.’
- (64) *Ra=u hage aute.*
 3NSGS=TEL go.up up.in.bush
 ‘They’ve gone up in the bush (to their gardens).’

8 Relational location nouns

There are also a number of relational location nouns in the language, used for specifying positions such as front/back as in example (65), above/below (66), and side—that is, positions which can be specified with respect to the inherent features of an object. The relationships are thus related to body part, and other part–whole relationships, but whereas these relationships enable speakers to talk about parts of an item in relation to its whole, relational nouns enable speakers to talk about locations with reference to the object’s inherent features or parts. If something can be thought of as having a front, a top or side, then we can focus on this feature of the object to speak of a location ‘in front of’, ‘on top of’, or ‘inside’. An exhaustive list of these nouns can be found in Table 5.

Table 5: Relational location nouns

<i>ulu-</i>	‘above, top of’	<i>tavalu-</i>	‘side’
<i>vava-</i>	‘under, below’	<i>duvi-</i>	‘end’
<i>nago-</i>	‘front of’	<i>maho-</i>	‘part’
<i>mue-</i>	‘front of’	<i>mwarara-</i>	‘side(line)’
<i>tagu-</i>	‘behind, back of’	<i>livuge-</i>	‘middle’
<i>lolo-</i>	‘inside’	<i>neki-</i>	‘side’
<i>mawiri-</i>	‘left’	<i>bobo-</i>	‘edge’
<i>matue-</i>	‘right’	<i>vito-</i>	‘edge’

- (65) *U vei gide=ru lo nago-i tangaloi sao.*
 TEL make 1NSG=DL LOC front-CONST people many
 'She humiliated¹³ the two of us in front of many people.'
- (66) *... mo vano mo tau=e lo vava-i goari-i dadai.*
 REAL go REAL put=3SGO LOC under-CONST root-CONST blood.tree
 '... he went and put her underneath the roots of a blood tree.'

As with nouns which specify part-whole relationships, relational nouns are bound nouns which must take part in a direct possessive construction as in example (67), or suffixed with the alienable suffix, *-gi*, which specifies that it is a bound noun, but the relationship is not being specified (68) and (69).

- (67) *Ra=mo toga lo bobo-i tahi.*
 3NSGS=REAL live LOC edge-CONST sea
 'They live on the sea's edge.'
- (68) *... ga=mo gugu na ga-mai hinaga lo vava-gi.*
 1NSG.EXS=REAL cook ACC CL.FOOD-1NSG.EXP food LOC under-AL
 '... we cooked our food underneath it.'
- (69) *Go=tau=e lo tavalu-gi.*
 2SGS=put=3SGO LOC side-AL
 'Put it on the (other) side.'

Whereas absolute location nouns are regularly used to refer to both small-scale (70) and large-scale space (71), relational nouns are generally only used to refer to small-scale space, as the objects of comparison are usually objects which are located in the immediate space (72) and (73). There are however rare examples where the object of comparison enables the expression to refer to large-scale space (40) and (75).

- (70) *Go=tu-tu hage.*
 2SGS=REDUP-stay up
 'Move up a bit.' (spoken to someone sitting next to the speaker on a bench)
- (71) *Mo hage aulu, lolo mahava.*
 REAL go.up up.high in sky
 'It went up high into the sky.'
- (72) *Go=mese labe lo nago-na.*
 2SGS=DEHOR stand LOC front-3SGP
 'Don't stand in front of her/him.'
- (73) *Mo eno lo vava-i rau-gi.*
 REAL lie LOC under-CONST leaf-AL
 'It is/was (lying) underneath the leaf.'
- (74) *Dodo maeto lo ulu-de.*
 cloud black LOC above-1NSG.INP
 'There were black clouds above us.'

¹³ The verb *vai* generally meaning 'do, make' has many extended meanings, one of which is for the subject to do something which has a negative effect on the object referent(s).

- (75) ... *aka-i Tagaro mo toga lo duvi-i tehi.*
 canoe-CONST Tagaro REAL sit LOC end-CONST sea
 '... Tagaro's canoe was sitting in the middle of the sea.'

Relational nouns can be used in combination with the directionals for greater specificity.

- (76) *Da=ni hike-si=e lo tagu-i vale hage-hage.*
 1NSG.INS=IRR search-APPL=3SGO LOC behind-CONST house REDUP-up
 'We will look for it up behind the house.'
- (77) *Ge! Lo vava-i bata him-hime.*
 there! LOC under-CONST table REDUP-down:to.sp
 'Look there! Underneath the table, closer down towards me.'

While there are terms for left and right in the language, these are generally only used to refer to position in relation to a person's body, as in example (78), and they, like all relational nouns, are only used intrinsically, never relatively (79).

- (78) *Pauline mo toga lo mawiri-ku, Danuta mo toga lo matue-ku.*
 Pauline REAL sit LOC left-1SGP Danuta REAL sit LOC right-1SGP
 'Pauline is sitting to my left, and Danuta is sitting to my right.'
- (79) **Go=tau=e lo mawiri-i gai.*
 2SGS=put=3SGO LOC left-CONST tree
 'Put it on the left side of the tree.'

This therefore brings us to the question put forward in the introduction to this paper: how does one say, 'Kenneth is hiding behind the breadfruit tree'? In order to speak of a location which in English we would be able to describe as 'behind the tree', or 'to the left of the tree' (as in English such terms can be used both intrinsically and relatively), such a situation would be described using the absolute/deictic system. An object of comparison is identified using a general locative such as *lobe* 'near', and then the position of the object being located is pointed out in relation to the position of the speech participants and the other specified reference point. The specified location could be further uphill/inland, downhill/towards the sea, or across from the location of both the speech act and the other reference point. Further, the object being pointed out could be closer to the location of the speech act or further away than the reference point, in which case the *-mai* forms and unmarked forms of the directionals would be used respectively. Figure 1 and the sentences below describe such a situation, where someone is standing behind/in front of a tree which is on a slope. Returning to our original example, B and C represent possible locations of Kenneth, whereas A and D represent possible locations of me, the speaker.

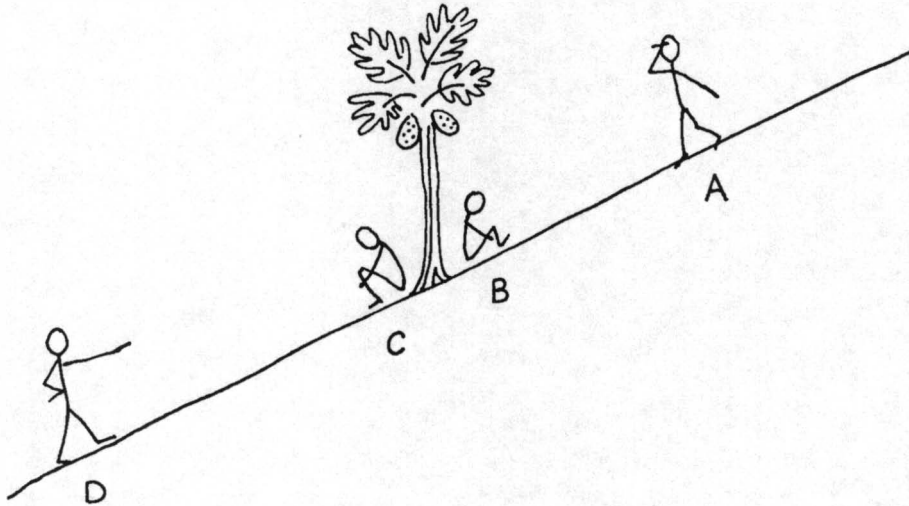


Figure 1: Kenneth hiding uphill/downhill from the breadfruit tree

A describes the location of B as:

B mo hili lobe na baego ham-hamai.

B REAL hide near ACC breadfruit REDUP-go.up:to.sp

'B is hiding in front of the breadfruit tree. (lit. B is hiding near the breadfruit tree, in a location which is closer up towards where I am.)'

A describes the location of C as:

C mo hili lobe na baego hivo-hivo.

C REAL hide near ACC breadfruit REDUP-go.down

'C is hiding behind the breadfruit tree. (lit. C is hiding near the breadfruit tree, in a location which is further down away from me.)'

D describes the location of C as:

C mo hili lobe na baego him-himei.

C REAL hide near ACC breadfruit REDUP-go.down:to.sp

'C is hiding in front of the breadfruit tree. (lit. C is hiding near the breadfruit tree, in a location which is closer down towards where I am.)'

D describes the location of B as:

B mo hili lobe na baego hage-hage.

B REAL hide near ACC breadfruit REDUP-go.up:to.sp

'B is hiding behind the breadfruit tree. (lit. B is hiding near the breadfruit tree, in a location which is further up away from me.)'

As these examples illustrate, if one wants to talk about the location 'behind the tree', then one must refer to that location in terms of both its absolute location and its location relative to the position of the speaker, using the location of the tree as a reference point. Is the location on the uphill or downhill side of the tree? Is it closer to the speaker than the tree or further away? In this way, the absolute location of the object will, by definition, not change with a

speaker's change in perspective. An object on the inland side of a tree will always be on the inland side—no matter where the speaker views it from. What can change, however, is the location in deictic terms. Thus referring once again to Figure 1, the location of B is *hage* relative to the tree no matter whether it is seen from the location of A, D or any other location. However, from A's perspective B is closer than the tree and therefore it is *hamhamai*, while from D's perspective B is further away than the tree and therefore it is *hagehage*. Thus, this absolute/deictic system requires that both the absolute position of an object and the speaker's location be taken into account.

9 Conclusion

There are many different types of spatial systems which operate in languages and spatial reference systems are an area of language where it is often not possible to make a direct translation equivalent between two different languages. This is illustrated by the case in point. Ambae uses two different types of spatial reference systems, an absolute/deictic system and an intrinsic system. There is no system operating which enables speakers to use the intrinsic system relatively. However, the absolute/deictic system can be used in place of a relative system in situations which in other languages may require a relative system to be used. The location is the same, it is merely seen and described in a different way; the location is not behind the tree, but is, for example, on the seaward or landward side of it. The absolute/deictic system operating in Ambae is based on salient features of the landscape, distinguishing uphill versus downhill or an inland direction versus a seaward direction. These environmental features can be referred to when talking about the location or direction of movement of any object in space.

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4 *Inside and outside Niuean space*

WOLFGANG B. SPERLICH

1 Introduction

Niuean is one of only two Tongic languages (Pawley 1966)—Tongan being the other one. Niuean has received less attention in Polynesian (Oceanic/Austronesian/general) linguistics than Tongan, often with the covert assumption that what works for Tongan also works for Niuean. As more detailed studies of Tongan become available, it is tempting to test this assumption. Given Bennardo's (1996a, b) recent seminal work on Tongan spatial relationships, the challenge was to compare Tongan with Niuean to see what light could be thrown from one to the other and perhaps *vice versa*. As such Bennardo (1996b:10) asserts that there are 'only three sets of lexical items that participate in the linguistic description of spatial relationships in Tongan'. He cites prepositions, directionals and spatial nouns as the three sets, but discusses in depth only spatial nouns. In this paper I will follow this scheme for Niuean, and along the way I will make comparisons with Bennardo's (1996b) Tongan data and his conclusions as appropriate. Note that in the language data cited, Tongan and Niuean orthography differs only in that the velar nasal is written as *ng*, while the Niuean equivalent is *g*.

2 Prepositions

Bennardo (1996b:2) makes the observation that spatial relationships in English are expressed mainly by means of spatial prepositions, while Tongan has only three spatial prepositions (and most other spatial relationships are expressed by means of spatial nouns), namely '*i* [at], *ki* [to] and *mai* [from]'. While Niuean also has this set as *i*, *ki* and *mai* there are quite a few more prepositions that can be considered as expressing spatial relationships. This expanded view may also be applicable to Tongan in that 'prepositions' in Niuean include all case markers, most of which carry spatio-temporal connotations, and as such the relative importance of 'prepositions' for spatial relationships in these two languages is perhaps far greater than previously thought. This would also concur with the general view taken for

Giovanni Bennardo, ed., *Representing space in Oceania: culture in language and mind*, 77–90.

Canberra: Pacific Linguistics, 2002.

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Polynesian spatial orientation by Krupa (1982:111) when he notes that ‘the spatial orientation markers form a paradigm of prepositions occurring in the nominal phrase’.

For Niuean, at any rate, the view that case markers (or particles) are classified as prepositions is well supported:

It has been established that that nearly all NPs in Niuean bear an overt prepositional case particle. (Seiter 1980:45)

The case markers are the prepositions *ki* [goal], *i* [cause], *i* [locative], *e* [agent], *ha*, *a* [genitive], *ma* [benefactive], and *he*. This last occurs only before common nouns and is always the combination of a case marker *i*, *a* or *e* and the common article *e* (which was originally **he*). (Biggs, n.d.)

According to my analysis, the following prepositions can express spatial relationships in Niuean (example sentences from Sperlich 1997, unless indicated otherwise):¹

- Hā* in, at, there
- (1) *Hā he fale a ia.*
in PREP house ABS there
‘He is in the house.’
- he, (i he)* in, into, from, out of, of (used with common noun phrases only; the bracketed version is the historical derivation still used by older speakers)
- (2) *Nofo e taokete haana (i) he maaga ha mautolu.*
stay ABS big brother his in the village of us
‘His big brother lives in our village.’
- i* in, at, from (after verbs of motion, used with proper noun phrases— including locative nouns)
- (3) *Kua hiki e ia e vaka haan i Nukututaha.*
T land ERG he ABS canoe his at N
‘He landed his canoe at Nukututaha.’
- (4) *Ne mohe a ia i loto he motokā.*
T sleep ABS he in inside ART car
‘He slept in the car (lit. he slept in the inside of the car).’
- ke* to, concerning, in, at, on, with (used with common noun phrases and followed by *he* in place of *e*)
- (5) *Ō ha ne fai a tautolu ke he fale kava.*
go while T make ABS we to ART house kava
‘We’re about to go to the pub.’

¹ Abbreviations used in this paper are:

ABS – absolutive case marker, ART – article, EMPH – emphatic particle, ERG – ergative case marker, IR – interrogative marker, POSS – possessive marker, PRED – predicate marker, PREP – preposition, REL – relative clause marker, T – tense marker

- ki* to (used with proper nouns, pronouns and local nouns)
- (6) *Hake a ia ki Makefu.*
 go ABS he to M
 'He went to Makefu.'
- mai* from
- (7) *Mamāo lahi e laā mai he lalolagi.*
 to be away far ABS sun from ART earth
 'The sun is far away from the earth.'

3 Directionals

These are commonly used (as adverbs) after verbs, but not with *hau* (come) and *fano* (go) which are verbs which express direction themselves. However, directionals are also used as full verbs. Bennardo (1996b:10) notes that for Tongan this set can be split into two subsets according to the axial orientation, that is vertical (*hake*, *hifo*) and horizontal (*mai*, *atu*, *ange*), although the latter is less well defined as such. One can make a similar claim for Niuean except that the vertical *hake* and *hifo* also take on compass direction (although clearly derived from the vertical notions of sunrise (east) and sunset (west)—where an interesting innovation/confusion is added due to the Western compass notion of 'north' being associated with 'up', hence *hake* acquiring this as a second meaning—however, no parallel development for *hifo* as 'south (down)' has been observed). Traditional cardinal directions are discussed in §4 on 'spatial nouns'.

Vertical axis:

- hake*, adv. up, upwards, eastwards, to the north
hake, v.i. to go up, to climb, to ascend
- (8) *Ne onono hake a ia ke he mahina.*
 T look up ABS he to ART moon
 'He was looking up to the moon.' [adverb]
- (9) *Ne hake e tama ki luga he mouga.*
 T up ABS child to top ART mountain
 'The child went up the mountain.' [verb]
- hifo*, adv. down, downwards, westwards
hifo, v.i. to go down, to descend
- (10) *Liu hifo ā a koe ki tahi.*
 return down EMPH ABS you to sea
 'Go back down to the sea!' [adverb]
- (11) *Hifo mai lā.*
 Down from EMPH
 'Come down from there!' [verb]

Of further grammatical interest is the rule that *hake* and *hifo* as adverbs cannot co-occur with any other directionals, while as verbs they can co-occur with at least *mai*. As verbs, they

also have plural suppletive forms whereby the plural form of *fano* (go), namely *ō*, is prefixed, to yield *ōhake* and *ōhifo*.

Horizontal axis (or perhaps better defined as any nonvertical axis, and not only in physical space but also with reference to abstract space such as emotional space):

mai, adv. to, here, hither, towards, this way (towards the speaker)

mai, v.i. to give (to speaker)

- (12) *Une mai!*

move here

‘Move over here (to speaker)!’ [adverb]

- (13) *Mai lā taha vala vai tote!*
Give EMPH one portion water small

‘Give me some water!’ [verb]

atu, adv. to, there, thither, that way (towards the person addressed, directly or indirectly); also used in comparative constructions

atu, v.i. to give (to person addressed, directly or indirectly)

- (14) *To fakamaama atu e au ki a koe.*
T explain to ERG I to ABS you
‘I will explain it to you.’ [adverb]

- (15) *Kua fakafono atu he matua taane a ia ki Niu Silani.*
T send away ERG parent male ABS he to NZ
‘His father sent him away to New Zealand.’ [adverb]

- (16) *Atu lā ia e au lima e talā.*
give EMPH that ERG I five ABS dollar
‘I just gave you five dollars.’ [verb]

- (17) *Homo atu e pene ē he tau pene oti.*
Surpass than ABS pen EMPH ART PL pen all
‘This pen is better than all the others.’ [comparative, adverb]

The use of *atu* in comparative constructions seems only loosely connected with directionals, perhaps in the sense of the ‘orientation/reference to the thing/being compared’ coming within the wider thematic base of *atu*.

age, adv. (orientation away from both speaker and person addressed; use restricted to psychological verbs and verbs of hitting and giving)

age, v.i. to give (orientation away from both speaker and person addressed)

- (18) *Tala age ki a ia e tala haau.*
tell away to ABS he ABS story your
‘Tell him your story!’

- (19) *To age e au taki lima e talā ki lautolu.*
T give ERG I each five ABS dollar to them
‘I will give each of them five dollars.’

With *mai*, *atu* and *age* being common directionals in many Polynesian languages, it has become accepted practice to denote them with ‘toward speaker’ for *mai*, ‘away from speaker’ for *atu* ‘along, obliquely/away from speaker and hearer’ and for *age* (Clark 1976:34,

POLLEX). As can be seen in Tongan and Niuean, this approach either needs further clarification, especially for *atu* and *age*, or a re-analysis. Bennardo (1996b:10) suggests the following classification for Tongan: *mai* [toward centre, where 'centre' is equal to centre of attention, canonically the speaker], *atu* [away from centre 1]/[toward addressee] (when centre is speaker), *ange* [away from centre 2] (centre 2 = speaker and addressee). I am not sure if this scheme can successfully be applied to sentence example (15), unless one stipulates that in (15) the 'centre' is not the speaker but rather the discourse centre is the subject of the sentence, namely the 'father'. I think the fundamental point for *atu* is not so much the notion of 'away from speaker/centre', but rather the notion of 'towards addressee, directly or indirectly' (as also noted by Seiter 1980:20), thus maintaining the semantic parallel with *mai*. The directional *age/ange* on the other hand almost seems synonymous with *atu*, except that *age/ange* is more restricted to certain classes of verbs (that is psychological, giving, hitting, in the case of Niuean).

4 Spatial nouns

It has long been noted that Polynesian languages have an abundance of proper names given over not only to human beings but also to all manner of features of the natural terrain (Krupa 1982:163). Niue as an upraised coral island with nothing but the sea in sight has practically no landmarks that could be seen from all parts of the island. Instead, there is a huge array of micro-landmarks that define the immediate environment of perhaps only a few square kilometres at a time (between villages), especially on the coastal side. Loeb (1926) recorded nearly 400 such placenames in Niue, and even today, the local geography confounds modern land titling issues because the traditional boundary markers are often known by one proper name to one family and by another proper name to another family (giving rise to land disputes). It is perhaps only natural that this intense personification of place has had an impact on the syntax of spatial concepts, giving rise to the well-known Polynesian languages phenomena of 'local nouns (or spatial nouns)'. The unusual feature is not that spatial reference is expressed by nouns (English too nominalises, for example the front, the back, the side, at the bottom of), but that these 'local nouns' are treated syntactically (via pronominal case marking or 'proper' article) like proper nouns (or pronouns).

In Niuean, setting aside various exceptions to the rule, there are two syntactic indicators. First, there are the two 'locative' prepositions *i* and *ki* which have direct scope only over proper nouns (local/locative/spatial nouns included), as in:

- (20) *Ne fano ai ki Samoa.*
 T go he to S
 'He went to Samoa.' (McEwen 1970:126)

- (21) *Aua neke tunu e moa i loto he fale!*
 NEG lest cook ABS chicken in inside ART house
 'Don't cook the chicken inside the house!' (Seiter 1980:52)

These locative prepositions also have scope over pronouns but then the appropriate pronominal article (or case marker) must come between preposition and pronoun, as in (McEwen 1970:126):

- (22) *Tala age ki a ia!*
 tell away to ABS he
 'Tell him!'

Second, if a local/spatial noun appears in subject or direct object position it will be case marked (or have the appropriate article) as if a proper noun and/or a pronoun—hence as differentiated from common nouns which take a different set of case markers (articles). This is demonstrated in Seiter (1980:52) and Kirikiri (1974:19) for examples (24)–(26):

- (23) *Kua teitei pouli tei a fafo.*
 T nearly dark nearly ABS outside
 'It's just about getting dark outside.'

- (24) *Ne fano a Sione.*
 T go ABS J
 'John went.'

- (25) *Ne fano a ia.*
 T go ABS he
 'He went.'

- (26) *Kua fano e kulī.*
 T go ABS dog
 'The dog went.'

Bennardo (1996b) has classified some 25 Tongan spatial nouns according to conceptual content and structural context (however the diagnostic criteria described for Niuean seem only to partly apply to Tongan, in that Bennardo only cites syntactic structures which have the initial preposition 'i as an indicator). Eighteen conceptual and 5 structural features give rise to spatial noun groupings with variously shared features. While I will not repeat this exercise for Niuean, I will analyse the conclusions reached as compared to their Niuean counterparts (where applicable), and I will advance alternative descriptive models for the Niuean data where applicable. Firstly, I will compare the Niuean data with Bennardo's set of spatial nouns as grouped according to conceptual content. Where available I will cite POLLEX reconstructions as supporting (but not decisive) evidence whether or not a given term is a local/spatial noun or not.

4.1 Group 1

The first grouping involves the 4 cardinal directions given as *hahake* [east], *hihifo* [west], *tokelau* [north], and *tonga* [south]. Together with only two others (*kō* [yonder], *'olunga* [above]) these spatial nouns share the unique feature called 'locus' (defined as the result of a projection, the collapse of a 'place' onto any of its interior points, Bennardo 1996b:6).

The Niuean equivalents of *hake*, *hifo*, *tokelau*, and *toga* are indeed used to denote the 4 cardinal points, but only as translation into English (and what has become accepted as modern compass direction). Note however that *hake* and *hifo* are not used as spatial nouns in Niuan (they operate only as adverbial and verbal directionals, see above, see also McEwen 1970; Seiter 1980). On etymological grounds, too, I would strongly disagree to group these 4 words together. For a start there is little evidence in Polynesian in general, and for Tongan and Niuean in particular, that any of these languages had developed a cardinal point directional

system (but which did not mean, for example, that they did not know how to navigate, Finney 1979:333). Of course the sun's movement provides a major anchor point, but only to the degree that the sunrise (*hake* = upwards) and the sunset (*hifo* = downwards) are familiar points of departure in an otherwise uneventful cycle of events. Of far greater importance in this scheme of things were the winds and the directions they came from (Finney 1979:333) and as such we have as the key axis the wind that blows—it so happens—from north to south, namely *tokelau*. In Niuean traditional society *tokelau* was (and still is to a certain degree) a key directional concept and the very word has many mythological and metaphorical extensions, occurs in many placenames, embedded in folklore, and is the subject of many a song. The term used to translate 'south' is *toga*, but its primary meaning in Niuean is 'foreign' and may be related to the observation that traditionally the island could only be safely approached from the south (that is, if any 'foreigner' turned up they always landed in the southern parts of the island). Nevertheless POLLEX reconstructs PN **toga* 'south, south wind', so the Niuean *toga* may well derive from that protoform and as such establish the all-important wind axis *tokelau-toga* even more clearly. There can be no dispute, however, that the pair *hake* [PN **hake*, 'upwards'] and *hifo* [PN **hifo*, 'downwards'] are quite unrelated (etymologically) to the pair of *tokelau* [PN **tokelau*, 'northerly quarter and wind from that quarter'] and *toga*.

If, on the other hand, one can make the claim that synchronically all these 4 terms denote the cardinal points (as borrowed from English) then they may well belong to a unique group as given by Bennardo (1996b). However, I am confident for Niuean at least to say that while *hake* and *hifo* are used (but not as nouns) for the cardinal points, their canonical use is still that of 'up' and 'down'. It is quite likely that Tongan has taken that a step further in 'nominalising' the partially reduplicated forms *hahake* and *hihifo* for the exclusive use in denoting the cardinal points.

4.2 Group 2

Next on Bennardo's list is *kō* [yonder] as a unitary group (having 3 additional features to those shared with the cardinal points group, namely 'contact, vicinity and visibility'). The Niuean equivalent *kō* [PN **koo*, 'yonder'] has a very similar semantic scope but is less securely defined as a 'spatial noun'. McEwen (1970) only gives it as an adverb, while Seiter (1980) does refer to it as a 'local noun'. In Sperlich (1997) it is categorised as a 'demonstrative pronoun' as in:

- (27) *Fano ki kō!*
 go to there
 'Go over there!'

If classified as a 'pronoun' we should note at this stage that pronouns in general play an important role in deixis; demonstrative and possessive pronouns in Polynesian have also been singled out as featuring prominently in 'orientation in space' (Krupa 1982:162). While Bennardo (1996b) does not feature any Tongan equivalents, I take the opportunity here to exemplify the Niuean range of demonstrative pronouns (as an alternative to 'demonstrative pronouns' one may also call them 'demonstrative local nouns' if one considers their semantic content as a nominal/substantive 'place'):

Hī here, away (movement away from a specific place in the direction of the speaker)

- (28) *Hau ki hē he puhalatū!*
 come to here ART road
 'Come here, away from the road!'

hinei this place here (no specific departure point)

- (29) *Hau ki hinei!*
 come to here
 'Come to this place here!'

hinā that place there

- (30) *Fano ki hinā!*
 go to there
 'Go to that place over there!'

hanei this (in physical contact with referent)

- (31) *Hanei e toki ne kumi a koe ki ai.*
 this ABS axe T look ABS you to it
 'This is the axe (in my hand) you are looking for.'

hanā that (in physical contact with referent)

- (32) *Hanā e pene.*
 that ABS pen
 'That's the pen (the one you're holding).'

konei this place here (implies remaining stationary when others are moving or have moved away)

- (33) *Konei agaia nī kia a mutolu?*
 Here still EMPH IR ABS you
 'You are still here?'

kunā that place there

- (34) *Kitia, hā i kunā!*
 look at in there
 'Look it's (that place) there!'

The forms used in examples (29) to (34) derive from the demonstratives *nei/nai* and *nā* which by themselves can also be used as demonstrative pronouns when preposed with the personal article (case marker) *a*, as for example:

- (35) *Ko e tohi a nei ne kumi a koe ki ai.*
 PRED ABS book ABS this T look ABS you to it
 'This is (the sort of) book you were looking for.'

The usually anaphoric pronoun, *ia*, can also be used as a locative, combining, as it were, a new locus with an aforementioned object, as in:

- (36) *Ia e mena kai ke kai a koe.*
 it ABS thing eat REL eat ABS you
 ‘Here it is, the food for you.’

The demonstratives in Niuean make up a complex paradigm that cannot be easily categorised in terms of a universal spatio-referential system as proposed by Bennardo (1996b). The many contextual subtleties defy analysis by the expatriate linguist (at least within the realm of the present investigation).

4.3 Group 3

Tongan *’olunga* [above], *funga* [top], *fukahi* [top] and *tumu’aki* [peak] have as a special feature (shared only with 1 other item *mata* [front]) what is termed ‘increasing angle (a sub-unit of verticality)’. The Niuean equivalents are *luga*, *fuga* and *tumuaki*, but none exists for the Tongan *fukahi*.

Niuean *luga* [above, upon, over, top] is certainly a classical ‘spatial noun’ [PN **luga*, ‘above, top (locative noun)’], as exemplified in:

- (37) *Hake ki luga he akau!*
 go to top ART tree
 ‘Climb to the top of the tree!’

Note however that a fully reduplicated form, *lugaluga*, does not operate as a spatial noun, but rather as a verb meaning ‘to feel on the top of the world’.

There is less certainty about *fuga* [PN **fuga*, ‘(upper) surface’] for which I have no instances as occurring as a spatial noun. Various compounds with *fuga* as head certainly operate as common nouns only.

The word, *tumuaki*, has two specialised meanings, ‘top/height of achievement’ and ‘crown of head’, and it cannot be considered a spatial noun in Niuean as it fulfils none of the criteria required. The PN reconstruction of **tumuqaki* ‘top of head’ would point to a Tongan innovation if indeed Tongan *tumu’aki* is a spatial noun as claimed by Bennardo (1996b)—in Churchward’s 1959 *Tongan Dictionary* it is listed as a common noun and in Churchward’s (1953) *Tongan Grammar* it is explained as a ‘preposed noun’ entering into a compound-like structure with other nouns. Other such labelled nouns are *ve’e* [border], *funga* (see above) and *mata* [front]. Bennardo (1996b) however, makes the convincing case that these nouns should also be called ‘spatial nouns’ because they fit in with the grammatical and conceptual structures that apply to ‘spatial nouns’.

4.4 Group 4

The following 4 Tongan items *lalo* [below], *faliki* [bottom], *kilisi* [bottom] and *takele* [bottom] all share the unique conceptual feature of ‘decreasing angle’.

The equivalent Niuean, *lalo*, ‘below, under, beneath, bottom’ [PN **lalo*, ‘below, under’] is certainly classified as a local/spatial noun, as in:

- (38) *Kua nofo a ia i lalo he laulau.*
 T stay ABS he in below ART table
 ‘He sat under the table.’

Of the next 3 items, only *faliki* and *takele* have Niuean equivalents but they cannot be considered spatial nouns. However, before we detail them we should note that the 3 Tongan items are not cited by Churchward (1953, 1959) as either ‘local’ or ‘preposed’ nouns. Bennardo (1996b) notes that apart from Churchward’s items which all qualify as spatial nouns in the present scheme, additional items ‘turned up’ during Bennardo’s elicitations (the ones given are *kō*, *tuliki*, *fa’ahi*, *fukahi* and *kilisi*, but I cannot ascertain from the text how and where *faliki* and *takele* turn up). At any rate, Niuean *faliki* is given as ‘cover spread’ [PN **faaliki*, ‘cover floor with mats or grass; floor cover’] while *tākele* is only given as a verb meaning ‘to dwell, to be based’ (possibly derived from *kele* ‘ground’). In both items, however, we can see a connection with ‘bottom’ as evidently evolved in Tongan.

4.5 Group 5

This group of 3 items seems to have no unique features, but conceptually it is easy to see that *mu’a* [front], *mata* [front] and *mui* [back] are closely related. The Niuean equivalents of *mua* ‘front, in front of’ [PN **muqa*, ‘front, before’] and *mui* ‘bottom, back, behind’ [PN **muri*, ‘behind’] are firmly attested as local/spatial nouns. However, reduplicated forms of both *mua* and *mui* do not operate as spatial nouns even though some forms have clear spatial connotations.

The item, *mata*, is much more difficult to determine, not only because of many homonyms, but also as a fundamental word to do with ‘face, look, see, eye’. In virtually all Polynesian languages it has a wide semantic field and as such enters into a myriad of compounds and other lexical constructs.

The Niue dictionary (1997) recognises that, conceptually, *mata* can be used like a locative/spatial noun, but on syntactic grounds it is not. The particular *mata* so associated is given as a noun that only occurs in derivations, imparting meanings like ‘with sharp points, blades and cutting edges; the very tip, head or front of something’ [PN **mata*, ‘point, blade, cutting edge (of a weapon or instrument)’], as in:

- (39) *Kua tū a ia he mataulu he galue ke fakamatala.*
 T stand ABS he PREP head PREP feast REL speech
 ‘He stood at the head of the feast to make a speech.’

Note that *mataulu* (*mata* + *ulu*, front + head) takes the preposition *he* which is reserved for common nouns. Note also that Churchward (1959) categorises the Tongan, *mata*, as a preposed and not as local noun, and Bennardo (1996b) notes that *mata* was rarely elicited during his detailed investigations.

4.6 Group 6

The 2 Tongan items *to’omatu’a* [right] and *to’ohema* [left] (where *to’o* is prefixed) have their Niuean equivalents in *matau* ‘right (not left)’ [PN **mataqu*, ‘right (not left)’] and *hema* ‘left, to be left-handed’ [PN **sema*, ‘left, sinistral’]. Sperlich (1997) lists *matau* only as a qualifier and *hema* both as qualifier and verb. To indicate a nominal direction a lexical compound must be used by preposing the noun *faahi* ‘side’, hence *faahi matau* ‘right side’ and *faahi hema* ‘left side’. However, neither operates syntactically as local/spatial nouns. Interestingly the Tongan equivalent of *faahi* which is *fa’ahi* (see also next group) does operate

as a spatial noun while the Niuean word does not. Possibly the Tongan prefix *to'o* has the same function as the Niuean *faahi* in forming a nominal expression.

4.7 Group 7

Niuean *loto* [inside], *vaha'a* [space between] and *fa'ahi* [(in)side] appear to be distinguished as having only few conceptual features (some 4 or 5 out of a possible 18). Niuean, *loto*, too is used as a spatial noun, as in:

- (40) *Kua nofo a ia i loto he fale.*
 T stay ABS he in inside ART house
 'He stays inside the house.'

Of interest is that Niuean, *loto*, [PN **loto*, 'inside, lagoon'] also operates as a common noun meaning 'mind, heart' (as a metaphorical extension perhaps of the 'emotional inside') and as a verb meaning 'to wish, to desire (that is, heart's desire)'. As a fully reduplicated form *lotoloto* also has conceptual spatial meanings such as 'amongst, in the middle of' but is used syntactically only as a common noun or as a verb.

In the case of the Tongan, *vaha'a*, [space between] we have an interesting scenario for Niuean. While the equivalents *vahā* 'time, season, space' [PN **waa*, 'interval (of space or time)'] and *vehā* 'space in between' (probably a variation of *vahā*) do not operate as spatial nouns, Niuean (as opposed to Tongan) has a local noun in *vaha* meaning 'horizon, expanse of the ocean' [PN **wasā*, 'open sea'], as in:

- (41) *Ne aalo a ia ki vaha.*
 T paddle ABS he to horizon
 'He paddled out to the horizon.'

Note that this is in contrast to another Niuean spatial noun (and which is only a common noun in Tongan), namely, *tahi*, which typically refers to the shallow part of the ocean close to land, as in:

- (42) *Ne hifo a ia ki tahi.*
 T down ABS he to sea
 'He went down to the sea.'

Interestingly though Niuean, *tahi*, can also operate as a common noun (with common noun marker *e*) when it means 'sea, sea water', as in:

- (43) *Nākai mitaki ke ō ke futi ika kaeke kua loka e tahi.*
 NEG good REL go REL catch fish when T rough ABS sea
 'It's dangerous going out fishing when the sea is rough.'

Finally, in this group we already had occasion (in group 4.6) to mention Niuean, *faahi*, as the equivalent of Tongan, *fa'ahi*. While conceptually Niuean, *faahi*, has various spatial connotations such as 'side, part, section, direction' it still does not operate syntactically as a spatial noun, as in (taking the locative preposition and article reserved for common nouns, *ke he*):

- (44) *Kua aalo fakatū atu haana a vaka ke he faahi uta*
 T paddle start thither his POSS canoe to ART direction east

ki loto.

to west

‘He paddled his canoe in an easterly to westerly direction.’

4.8 Group 8

In this second last group, Bennardo (1996b) lists 3 Tongan spatial nouns, namely *tu’a* [outside], *ve’e* [border] and *tafa’aki* [side]. The Niuean equivalent, *tua*, ‘back, behind, outside, over, beyond’ [PN **tuqa*, ‘back’] is a spatial noun covering a wide semantic field of locational concepts. An example is:

- (45) *Kua hopo e tama ki tua he pā.*
 T jump ABS child to back ART fence
 ‘The child jumped over the fence.’

The spatial noun, *tua*, is also used prefixing numerals which yield ordinals, especially in the context of layers of things.

No Niuean equivalents for *ve’e* and *tafa’aki* come to mind, unless the latter is derived from *fa’ahi* (Niuean, *faahi*) which is discussed in §4.7 (Group 7). The Niuean word for ‘border, side, edge’ is *kala*, but is not a spatial noun.

4.9 Group 9

There is only 1 member in this last group, *tuliki* [corner]. No Niuean equivalent comes to mind here either. A remotely corresponding item might be *tila* ‘edge, corner’, but again it is not a spatial noun.

4.10 Niuean spatial nouns with no direct Tongan equivalents

It is perhaps to be expected that just as Tongan has some spatial nouns without equivalents in Niuean, the case can be reversed. We have already come across 2 such items in §4.7, namely *vaha* ‘horizon, open expanse of ocean’ and *tahi* ‘shallow part of the sea’. An additional item related to the former is *tutavaha*, synonymous with *vaha*. It is not clear how one is derived from the other as the prefixed *tuta-* is not an extant word in Niuean. To exemplify its use:

- (46) *Ne aalo atu a ia ki tutavaha.*
 T paddle thither ABS he to deep sea
 ‘He paddled out to the (deep) sea.’

Also related to this land–sea configuration is the spatial noun, *uta*, ‘inland, shore, ashore’ [PN **quta*, ‘shore (from sea), inland (from shore)’], as in:

- (47) *Ne hake atu taha a ia ki uta.*
 T go thither one ABS he to inland
 ‘He went further inland.’

Last is *fafo* ‘outside’ [PN **fafo*, ‘outside’] as in:

- (48) *Kua nofo a ia i fafo mo e tagi.*
 T stay ABS he in outside and ABS cry
 'He stayed outside and cried.'

PN **fafo* is retained in Tongan in the compound, *felemofafo*, 'to go in and out' (Churchward 1959:19).

4.11 Summary of spatial nouns compared

While there is broad agreement between Niuean and Tongan spatial nouns, there are nevertheless some interesting differences. With Bennardo (1996b) listing some 25 Tongan spatial nouns, there are clearly far fewer in Niuean. One reason may be that Niuean spatial nouns are more tightly constrained syntactically. To do an in-depth comparison on that level would require an intimate knowledge of both Tongan and Niuean syntax (an interesting point uncovered for Niuean spatial nouns is, for example, the observation that such forms do not usually enter into derivational processes such as reduplication).

Idiosyncratic language evolution explains the phenomenon of having certain items which do not have equivalents in the other language. While Tongan and Niuean are closely related languages they are nevertheless mutually unintelligible.

5 Conclusion

Bennardo (1996b) in his paper on Tongan spatial nouns concludes that such investigations 'help us in our effort to obtain a better understanding of the human mind'. The present comparison between Tongan and Niuean spatial nouns (and some other spatial expressions) may be smaller in scope, but it may help in our understanding of closely related languages. In particular, it may help us to understand better how so-called universal concepts such as orientation space can find such a diverse range of expression even among two closely related languages. To do such a detailed study for Polynesian languages in general would further advance our appreciation of not only the leap from grammar to mind (if there is one) but also of the realisation that both conceptual and grammatical analyses bite their own tails.

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5 *The case markings of Hawaiian locative nouns and placenames*

KENNETH WILLIAM COOK

1 Introduction¹

In Hawaiian, placenames and locative nouns unite to form an interesting category with respect to case marking. To begin with, locative nouns, which are a strange breed of nouns that form the core of the so-called ‘double prepositions’, are case-marked like placenames, and then these two classes together are marked like personal names when they are subjects, objects, and stative agents, but they are marked like common nouns when they are locations, destinations and sources.

In this paper, I will first show how personal names and common nouns differ in case marking and then how placenames and locative nouns fit in between these two extremes. I will then attempt to explain why locative nouns are marked like placenames and why placenames are marked like personal names when they are coded as subjects, objects and stative agents, but not when they are coded as locations, destinations or sources.

2 Locative nouns

Of the noun types mentioned above, probably only the term ‘locative noun’ requires any introductory comments. Examples of locative nouns are given in Table 1.²

¹ I thank Gary Kahāho‘omalu Kanada, the Hawaiian language instructor at Hawai‘i Pacific University, for help with the Hawaiian data and analyses in this paper and for pointing out to me early in my work on this topic that Hawaiian locative nouns are marked like placenames. The first version of this paper was presented at the Austronesian Circle of the Linguistics Department of the University of Hawai‘i at Mānoa on September 25, 1997. I thank the participants there for their helpful and encouraging comments, in particular Robert Blust, Isidore Dyen, Emily Hawkins, Naomi Losch, Miriam Meyerhoff, Lawrence Rutter and Stanley Starosta. A second version of this paper was presented at the 96th annual meeting of the American Anthropological Association, which was held November 19–23, 1997, in Washington, DC. Any errors in this paper, of course, are my own.

² There are also a few temporal expressions such as *nehinei* ‘yesterday’ and *kinohi* ‘beginning’ which behave like the nominals in Table 1. *Muli* is also used in the expression of cause *ma muli o* ‘because of’. See Elbert and Pukui (1979:120–123) for more details.

Table 1: Locative nouns

<i>luna</i>	‘top, above’	<i>lalo</i>	‘bottom, under’
<i>loko</i>	‘inside’	<i>waho</i>	‘outside’
<i>uka</i>	‘inland’	<i>kai</i>	‘sea, seaward’
<i>mua</i>	‘before, front’	<i>hope</i>	‘behind, after, back’
<i>waena</i>	‘between’	<i>muli</i>	‘behind, after’
‘one’ <i>i</i>	‘here’	<i>laila</i>	‘there’ (anaphoric)
‘ane’ <i>i</i>	‘here’	‘ō	‘there’ (not anaphoric)
<i>ha’i</i>	‘edge’	<i>kaha</i>	‘place’
<i>kahakai</i>	‘beach, seashore’	<i>kahaone</i>	‘beach, seashore’
<i>kauhale</i>	‘household, home’		

When locative nouns are used in their usual, relational sense, that is, in the so-called ‘double prepositions’, they are preceded by a preposition (but not an article) and followed by *o* ‘of’ plus a noun phrase. In this way, they behave like the word *top* in the English expression *on top of*. In example (1), for instance, *luna* ‘top’ is preceded by the preposition *ma* ‘on’ and followed by *o* ‘of’ plus the noun phrase *ke pākaukau* ‘the table’.

- (1) *Aia ka nūpepa ma luna o ka pākaukau.*
 there the newspaper on top of the table
 ‘The newspaper is on top of the table.’
 (Hopkins 1992:126)

If a locative noun is preceded by an article, it may have a special, lexicalised (possibly nonlocative) meaning. For example, *ka luna*, which literally means ‘the top’, refers to a foreman or boss (as of plantation workers). See Elbert and Pukui (1979:120–123) for more on this.

3 Personal names and common nouns

Personal names and common nouns are marked differently with respect to case. Table 2 shows what case markings these two noun types receive when they are encoded as subjects, objects, stative agents, locations, destinations and sources.

Table 2: The case-markings of personal and common nouns*

	SU	OB	SA	LO	DS	SR
personal names	‘o	<i>iā</i>	<i>iā</i>	<i>iā</i>	<i>iā</i>	<i>maiā</i>
common nouns	∅	<i>i</i>	<i>i</i>	<i>i/ma</i>	<i>i</i>	<i>mai</i>

*Where SU=subject, OB=object, SA=stative agent, LO=location, DS=destination (goal of motion, indirect object), SR=source.³

The *ā* that appears in the nonsubject case markers in Table 2 is the historical reflex of what was a personal particle (Elbert & Pukui 1979:133). As we will see shortly, in contemporary

³ Other abbreviations used in the interlinear glosses are: IMP – imperfect or imperative, NEG – negative, NOM – nominaliser, PERF – perfect, PL – plural, PRS – present, VOC – vocative

Hawaiian, these nonsubject case markers, somewhat surprisingly, mark nouns other than human or animate nouns.

I will now illustrate the case markings in Table 2 with example sentences, moving across Table 2 from left to right, starting with the role of subject.

3.1 Subjects

There is a tendency in Hawaiian for subjects that are personal names to be marked *‘o* and for common nouns to be unmarked. These markings are illustrated in examples (2a) and (2b). The opposite markings are possible, but less common. (I have put the phrases of interest in bold face.)

- (2) a. *Makemake ‘o **Lani** i kēia lei.* (personal name)
 want SU Lani OB this lei
 ‘Lani wants this lei.’
 (Kamanā & Wilson 1990:66)
- b. *Kuke **ka** **wahine** i ka mea‘ai.* (common noun)
 cook the woman OB the food
 ‘The woman cooks the food.’
 (Kamanā & Wilson 1990:66)

As illustrated in example (3), the third person singular pronoun (but usually not the other personal pronouns) is also marked *‘o* when it refers to a human and is in subject position. In the nonsubject roles, personal pronouns are marked the same as personal names.

- (3) *Heluhelu ‘o **ia** i nā puke.* (3rd person singular)
 read SU he OB the book
 ‘He reads the books.’
 (Kamanā & Wilson 1990:66)

3.2 Objects

Sentences (4a) and (4b) show that objects that are personal names are marked *iā*, while common nouns are marked *i*.

- (4) a. *E aloha aku ‘oe **iā** Nālei!* (personal name)
 IMP greet forth you OB Nālei
 ‘Greet Nālei!’
 (Hopkins 1992:24)
- b. *Ua ‘ike au **i** ke ka‘a.* (common noun)
 PERF see I OB the car
 ‘I saw the car.’
 (Kamanā & Wilson 1990:84)

3.3 Stative agents

A stative agent is an entity responsible for a state. For example, John is the entity responsible for Mary's state in 'Mary is pregnant by John'. When personal names are encoded as stative agents, they are marked *iā*. When common nouns are encoded as stative agents, they are marked *i*. These facts are illustrated in examples (5a) and (5b):⁴

- (5) a. *'Eha 'o ia iā Miki.* (personal name)
 hurt SU he SA Miki
 'He was hurt by Miki.'
 (Kamanā & Wilson 1990:152)
- b. *Ua make ka wahine i kāna kāne.* (common noun)
 PERF die the woman SA her husband
 'The woman died due to her husband.'
 (Hopkins 1992:143)

3.4 Locations

Personal names as locations, that is, temporary possessors with whom possessed items reside, are marked *iā*. Common nouns, when coded as locations, are marked *i* or *ma*. Compare example (6a) with examples (6b) and (6c).

- (6) a. *Aia ka puke a ke kumu iā 'Aulani.* (personal name)
 there the book of the teacher at 'Aulani
 'Aulani has the teacher's book.'
 (Literally the teacher's book is at 'Aulani.)
 (Hopkins 1992:214)
- b. *Aia ke kumu i ka hale.* (common noun)
 there the teacher in the house
 'The teacher is at home.'
 (Cleeland 1994:88)
- c. *Aia 'o Kamaile ma ka pāka.* (common noun)
 there SU Kamaile at the park
 'Kamaile is at the park.'
 (Cleeland 1994:88)

3.5 Destinations

The expression 'destination' is used in this paper as a cover term to include indirect objects and goals of motion. As can be seen in examples (7a) and (7b), when personal names are

⁴ I use the term 'stative agent' here because it is the term used in the literature on Hawaiian and other Polynesian languages for this type of nominal. In Cook (1988:83) I used the term 'locus of responsibility or cognition', which I feel is a more accurate term. See Hooper (1984) for arguments that the so-called Polynesian 'stative verbs' which occur with this type of nominal do not exclusively nor primarily profile states.

indirect objects, they are marked *iā*, and when common nouns are goals of motion, they are marked *i*.

- (7) a. *Ua ho'ouna 'o Nākoa i ka lole iā Luka.* (personal name)
 PERF send SU Nākoa OB the clothes to Luka
 'Nākoa sent the clothes to Luka.'
 (Hawkins 1982:56)
- b. *Ua hele 'o ia i ke kuahiwi.* (common noun)
 PERF go SU he to the mountain
 'He went to the mountain.'
 (Kamanā & Wilson 1990:128)

3.6 Sources

The word *maiā* precedes personal names that are sources, while *mai* 'from' precedes common nouns. Compare examples (8a) and (8b). The second *mai* that appears in these sentences is the directional *mai*, which means 'hither'.

- (8) a. *He mau makana kēia maiā Lilinoe mai.* (personal name)
 a PL gift this from Lilinoe hither
 'These are some gifts from Lilinoe.'
 (Hopkins 1992:67)
- b. *Mai ka lumi ho'okipa mai ka noho.* (common noun)
 from the room entertain hither the chair
 'The chair is from the living room.'
 (Cleeland 1994:282)

4 Placenames and locative nouns

I will now expand Table 2 to include placenames and locative nouns. Table 3 shows that these two noun types have identical case markings and that when they are subjects, objects and stative agents, they are marked like personal names, but when they are locations, destinations and sources, they are marked like common nouns.

Table 3: The case-markings of noun types

	SU	OB	SA	LO	DS	SR
personal names	'o	<i>iā</i>	<i>iā</i>	<i>iā</i>	<i>iā</i>	<i>mai</i>
placenames	'o	<i>iā</i>	<i>iā</i>	<i>i/ma</i>	<i>i</i>	<i>mai</i>
locative nouns	'o	<i>iā</i>	<i>iā</i>	<i>i/ma</i>	<i>i</i>	<i>mai</i>
common nouns	∅	<i>i</i>	<i>i</i>	<i>i/ma</i>	<i>i</i>	<i>mai</i>

Before trying to explain the distribution of case markers in Table 3, let us look at some example sentences that illustrate the markings of placenames and locative nouns. Again, we will go through the roles in Table 3 from left to right.

4.1 Subjects

As can be seen in examples (9a) and (9b), both placenames and locative nouns are marked 'o when they are subjects.

- (9) a. *Nani 'o Moloka'i.* (placename)
 beautiful SU Moloka'i
 'Moloka'i is beautiful.'
 (Kamanā & Wilson 1990:40)
- b. *Wela 'o 'ane'i i kēia lā.* (locative noun)
 hot SU here on this day
 'It's hot here today.'
 (lit. Here is hot on this day.)
 (Kamanā & Wilson 1990:40)

4.2 Objects

Placenames and locative nouns are both marked *iā* when they are encoded as objects. See examples (10a) and (10b):

- (10) a. *Ua 'ike 'o ia iā Maui.* (placename)
 PERF see SU he OB Maui
 'He saw Maui.'
 (Hawkins 1982:56)
- b. *Ua holoī au iā loko o ke pola.* (locative noun)
 PERF clean I OB inside of the bowl
 'I cleaned the inside of the bowl.'
 (Kamanā & Wilson 1990:133)

4.3 Stative agents

Examples (11a) and (11b) illustrate that placenames and locative nouns are also marked *iā* when they are encoded as stative agents.⁵

- (11) a. *Kaulana 'o Ko'olaupoko iā Kailua.* (placename)
 famous SU Ko'olaupoko SA Kailua
 'Ko'olaupoko is famous because of Kailua.'
 (Hawkins 1982:56)
- b. *Kaulana 'o Waikīkī iā kahakai.* (locative noun)
 famous SU Waikiki SA beach
 'Waikiki is famous because of the beach.'

⁵ I thank Gary Kahāho'omalū Kanada for suggesting sentence (11b) and E.K. Kawika Kapahulehua, a native speaker of Hawaiian from Ni'ihau, for verifying its grammaticality.

4.4 Locations

In the sentences that we have seen so far, placenames and locative nouns have been marked like personal nouns. For locations, destinations, and sources, however, placenames and locative nouns are marked like common nouns. As can be seen in examples (12a) and (12b), both placenames and locative nouns are marked *i* and *ma* when they are locations.

- (12) a. *Ke noho nei au i/ma Mānoa.* (placename)
 PRS live PRS I in Mānoa
 'I'm living in Mānoa.'
 (Kahananui & Anthony 1974:111)
- b. *Aia ka haukapila ma 'ō.* (locative noun)
 there the hospital at there
 'The hospital is over there.'
 (Cleeland 1994:86)

4.5 Destinations

Examples (13a) and (13b) show that placenames and locative nouns are marked *i* when they are destinations.⁶

- (13) a. *Ua ho'ouna 'o Nākoa i ka lolo i Lāna'i.* (placename)
 PERF send SU Nākoa OB the clothes to Lāna'i
 'Nākoa sent the clothes to Lāna'i [an island].'
 (Hawkins 1982:56)
- b. *Hele lākou i laila i ka Po'aono.* (locative noun)
 go they to there on the Saturday
 'They go there on Saturday.'
 (Cleeland 1994:109)

4.6 Sources

Both placenames and locative nouns are marked *mai* when they are sources. See examples (14a) and (14b):

- (14) a. *Ua hele mai ko'u mau hoahānau mai Hilo mai.* (placename)
 PERF come hither my PL cousin from Hilo hither
 'My cousins came from Hilo.'
 (Hopkins 1992:54)
- b. *Mai laila mai 'o ia.* (locative noun)
 from there hither SU he
 'He is from there.'
 (Elbert & Pukui 1979:122)

⁶ The sentence *Hele iā Maui* 'go to Maui', which appears in Pukui and Elbert (1986:93) does not conform to this description. Because Maui is a placename (specifically the name of an island), one would expect it to be marked *i* in this phrase. Emily 'Ioli'i Hawkins has pointed out that Hawaiian case markings are not always as clear-cut as implied by Table 3.

5 On why locative nouns are marked like placenames

Assuming that it is locative nouns that assimilate to placenames and not the other way around, let us turn to the question of why locative nouns should be case-marked like placenames. I think there are at least three reasons.

- (i) Semantically, locative nouns are like placenames in that they have to do with locations. This is probably the principal (and most obvious) reason.
- (ii) Structurally, the two noun classes are similar in that they both lack articles. It seems to me that the lack of articles, in and of itself, could also influence speakers to treat the two noun types as belonging to the same class.
- (iii) Both locative nouns and placenames are used metonymically for the inhabitants of locations (Elbert & Pukui 1979:122).

In other words, the people who live in a particular place, for example 'Ewa or near the sea, can be referred to by the place in which they live (cf. using the White House to refer to the President of the United States). Elbert and Pukui (1979:122, 144, 165) point out that the people who live near the sea and those who live in the uplands are referred to, as illustrated in example (15a), with the expressions *kō kai* '(people) of the sea' and *kō uka* '(people) of the uplands'. (The words *kai* and *uka* are locative nouns.) Consider also examples (15b) and (15c).

- (15)a. *kō kai (po'e) kō uka (po'e)*
 the.of sea people the.of inland people
 '(people) of the coast' '(people) of the uplands'
 (Elbert & Pukui 1979:144)
- b. *Uwā 'o uka.*
 shout SU inland
 'Those inland shouted.'
 (Elbert 1959:259; cited in Pukui & Elbert 1986:365)
- c. *Inā lāua e kāhea i Waikīkī, ua lohe 'o 'Ewa, ...*
 if they IMP call at Waikiki PERF hear SU Ewa
 'If they should call at Waikiki, the people of Ewa would hear, ...'
 (Elbert 1959:49; cited in Elbert & Pukui 1979:123)

In sum, locative nouns and placenames both refer to places, they both lack articles, and they are both used to refer to the people who inhabit those areas that they themselves refer to. These three facts, I would argue, contribute to the identical treatment of these two noun types with respect to case markings.

6 On why placenames are marked like personal nouns for certain roles but like common nouns for others

Let us now turn to the question of why placenames are marked like personal nouns when they are subjects, objects, and stative agents but like common nouns when they are locations, destinations and sources. If for half of the roles they are marked like personal nouns and for

the other half like common nouns, then they must, in some way or ways, be both similar to and different from these two other noun types.

One concept I believe necessary in order to explain this scenario is that of individuation, a concept previously employed by Hopper and Thompson in their classic article on transitivity (1980:252–253) and by Timberlake (1975, 1977). According to Hopper and Thompson, entities which have the properties listed on the left in Table 4 are more individuated than those with the properties on the right.⁷

Table 4: Parameters of individuation

	Individuated	Non-Individuated
a.	proper	common
b.	animate	inanimate
c.	concrete	abstract
d.	singular	plural
e.	count	mass
f.	definite	indefinite

The parameters in Table 4 which I believe are relevant for the present discussion are parameters a, b, and f. As for Hawaiian nouns, personal names are the most highly individuated in that they are proper, animate, and inherently definite. Common nouns are the least individuated in that they are (obviously) common and inherently indefinite, that is, they require a definite article in order to receive a definite reading. As for animacy, the common nouns that typically encode locations, destinations and sources are inanimate. I am referring to words like *hale* ‘house’, *kuahiwi* ‘mountain’ and *lumi ho‘okipa* ‘living room’ that appeared in examples (6b), (7b) and (8b), respectively. Placenames are ‘in between’ personal names and these common nouns with respect to individuation in that, like personal names, they are proper and definite but like the common nouns that encode locations, they are inanimate.

Now that may explain why placenames are marked like personal nouns for some roles and like common nouns for others; however, it does not explain why they are marked like personal names for exactly the roles of subject, object and stative agent but like common nouns when they are encoded as locations, destinations and sources. For this aspect of the distribution of the case markers, I will appeal to the participant/setting distinction argued for by Langacker (1991:230–234).

Participants are the individuals and other entities that act or interact in an event, while facets of the setting include the time and location where the event takes place. In typical cases, participants are encoded as subjects or objects, while facets of the setting are encoded as adverbial modifiers. Languages, however, are flexible, and speakers can ignore norms and construe participants as settings and facets of settings as participants. To exemplify with English, sentence (16a) illustrates the norm, (16b) is a sentence in which an individual is construed as a facet of the setting, and (16c) encodes a location as a participant.

⁷ Hopper and Thompson (1980:253) include human in (b) and referential and nonreferential in (f). I have omitted these for the sake of brevity. Referentiality may play a role in the fact that personal pronouns (except the 3rd person singular *ia* when it refers to humans) do not normally receive the subject marker ‘o when they are encoded as subjects. Since personal pronouns are deictic, their reference (unlike that of personal names) varies depending on the speech situation.

- (16) a. George (participant) is sleeping on the beach (setting).
 b. Look, there's a fly on him (setting)! Whack it!
 c. This fly invasion is ruining Waikīkī (participant).

As for why placenames assimilate to personal nouns for exactly the grammatical relations of subject, object and stative agent (and not the other roles), I propose that those particular relations are the ones that typically encode participants, and participants are more clearly individuated than the facets of the settings in which they act. (In other words, participants could also be listed in the left column of Table 4 and facets of the setting in the right column.) Specifically, participants are individuated against the setting background in which they (inter)act. Thus, when placenames are encoded as participants, their individuation is heightened by the fact that they are encoded as participants rather than as facets of the setting. Their being marked like inherently highly individuated personal names is the result, I would claim, of their being encoded as (individuated) participants rather than (non-individuated) facets of the setting.

On the other hand, when placenames are encoded as locations, destinations, and sources, they are encoded as elements which are more setting-like. Such elements are less individuated than the participants in an event; hence, placenames under these circumstances do not merit the case markings of the more highly individuated personal names.

Earlier we saw that locative nouns assimilate to placenames in that they were both used metonymically to refer to the people who inhabit the places that they refer to. Notice that in that situation, we also have placenames referring to definite groups of people, in other words behaving like personal names. This could also reinforce a system in which personal and placenames are marked in similar ways.

6.1 The role of place in the Hawaiian culture

There are other factors which I believe reinforce the connection between placenames and personal names, and these have to do with the role of place in the Hawaiian culture as described by Kanahele (1986), who, not by chance I would say, devotes a whole chapter of his book on Hawaiian values to the role of place in the culture. Consider the following quotation:

In the case of the traditional Hawaiian, ... almost every significant activity of his life was fixed to a place. No genealogical chant was possible without the mention of personal geography; no myth could be conceived without reference to a place of some kind; no family could have any standing in the community unless it had a place; no place of any significance, even the smallest, went without a name; and no history could have been made or preserved without reference, directly or indirectly, to a place. (Kanahele 1986:176)

Kanahele (1986:178–180) also argues that territoriality was an 'important part of the Hawaiian's psychology of place and his own sense of individuality'. In speaking of 'roots of identity', Kanahele (1986:180–183) claims that since traditional Hawaiian commoners tended to stay in the same place for generation after generation, 'all the important events of [their] life ... occurred in one place' to the extent that 'a sense of place was inseparably linked with self-identity and self-esteem'. People also valued places for their links with their ancestors.

Kanahele (1986:184–188) observes that land in the Hawaiian culture is not only sacred, but alive. The metaphors in Hawaiian myths represent earth as a ‘sentient organism’. Land evolved out of the ‘union of Papa (mother earth) and Wākea (sky father)’.

Kanahele (1986:183–184) also mentions previous authors who perceived the importance of place in the Hawaiian culture. For example, Luomala (1949) demonstrated the importance of placenames in Hawaiian poetry. Elbert, in Pukui, Elbert, and Mookini (1974:266–271), observes that Hawaiian proverbial sayings ‘differ from Euro–American proverbial sayings in that they rely heavily on placenames’. In Pukui’s (1983) frequently quoted *‘Olelo No‘eau: Hawaiian Proverbs and Poetical Sayings*, 1149 out of 2942 proverbs (that is, 39 per cent) mention placenames.

Kanahele (1986:183–184) also mentions that place is one of the important categories of Hawaiian songs, and on this point I would like to elaborate. I would add that while much of the world is singing about the affection between human lovers, Hawaiians are singing at least as much, if not more, about the love that they feel for certain places, be it their homesteads, native towns or other places in Hawai‘i that are dear to them.⁸ For example, on KINE-FM, the radio station that (compared to other FM stations in Honolulu) plays the greatest proportion of Hawaiian music, one of the most frequently played songs (at the time of the writing of this paper) is about the area on the island of Hawai‘i called Kalapana. The title of the song is given in example (17).

- (17) *E Kalapana, pehea ‘oe?*
 VOC Kalapana how you
 ‘Hey, Kalapana, how are you?’
 (title of song by Moses Kamealoha III)

The vocative marker *e* and the question *pehea ‘oe?* in example (17) show that the singer is personifying the place. The only mainland songs in English that I can think of that have similar titles are *California, here I come* and *O little town of Bethlehem*, which I do not believe are representative of popular mainland songs today. Somewhat similar is *I left my heart in San Francisco*, but songs like these are outnumbered by the numerous Hawaiian placename songs that are played regularly on the aforementioned radio station, songs like *Kāne‘ohe*, *Kaimuki Hula*, *Wai‘ānae*, *He aloha nō ‘o Honolulu*, *Hilo Hanakahi*, *Hanohano Hale‘iwa*, *Moloka‘i Nui a Hina*, and many more. My claim here is that Hawaiians treat placenames as personal names under certain conditions because they love their places of origin, and so on, in a manner similar to the way in which they love the people who are dear to them.⁹

⁸ At the American Anthropological Association presentation of an earlier version of this paper (see fn. 1), Penelope Brown pointed out that the Irish also sing frequently about places.

⁹ Elbert and Mahoe (1970:3) collected 101 Hawaiian songs of which they categorised 29 as love songs, 16 as ‘honoring places’ and 12 as ‘honoring persons’. At first glance, these figures may not seem to support my claim, but the authors admit that it is difficult to categorise the songs because of a ‘plurality of motifs’, and they also point out that what they classify as love songs make constant reference to nature. The authors purposely included ‘examples of the most common types of songs’ written between the mid-1850’s and 1968. I do not believe that they had the intention of correctly representing the numerical proportion of each type of song at any particular point in Hawaiian history.

Note that it is placenames *per se* and not the names of winds, rains, and seas that assimilate to personal names. Winds, rains, and seas, which one might think of as animate-like and therefore similar to humans, are surprisingly treated as common nouns. Evidence of this is the fact that names of winds, rains, and seas are preceded by articles. This is illustrated in (i).

7 Future research

In order to discuss topics for future research, let us first consider example (18), the system of categorisation of Hawaiian nouns found in Kamanā and Wilson (1990, 1991).¹⁰

- (18) a. *i'oama'uli*: 'proper names for things that have personalities like people, animals, and spirits' (1991:21)
- b. *i'oapaku*: 'proper names for things that do not have personalities such as places, trees, books, songs, etc.' (1991:21)
- c. *i'oahenua*: 'locatives' (1990:88, 1991:49)
- d. *kikino*: 'something that has some sort of body or shape, or is thought of in terms of having a form of some sort' (1990:148) [equivalent to 'common nouns'—K.C.]

With respect to examples (18a) and (18b), that is, *i'oama'uli* and *i'oapaku*, in this paper I have only dealt with representative subclasses of these two categories, namely personal names and placenames. Future research could focus on the other subclasses within those groups to see if their behaviour is consistent with that of personal names and placenames, or if they belong to more than one category.

With regard to the latter possibility, Gary Kahāho'omalū Kanada has pointed out to me that when words and phrases are spoken of metalinguistically, they are treated at times like the nouns in example (18b), that is, as *i'oapaku*, and at times like those in (18d), namely, as *kikino*. For example, in sentence (19a), the words *nei* and *ala* are treated like *i'oapaku* in that, as direct objects, they are marked *iā*, while in (19b), *i* (the last word in the sentence) is treated as a *kikino*. (The article *ka* in front of *i* indicates that it is a *kikino*.)¹¹

- (19) a. *Aia iā 'oe ke koho 'ana iā nei a iā ala paha.*
 there to you the choose NOM OB nei and OB ala perhaps
 'Choosing *nei* or *ala* is up to you.'
 (Kamanā & Wilson 1991:26)

-
- (i) a. *He Kuehu-lepo ko Ka-ū*
 a scatter-dirt/dust the.of Ka'ū
 'The [wind] of Ka'ū is a dirt or dust scattering [wind].'
 (Kahananui & Anthony 1974:107)
- b. *He ua loku ko Hanalei.*
 a rain drench the.of Hanalei
 'The [rain] of Hanalei is a drenching rain.'
 (Kahananui & Anthony 1974:108)
- c. *He kai 'a'ai ke kai o Ka'a'awa ma O'ahu.*
 a sea erode the sea of Ka'a'awa on O'ahu
 'The sea of Ka'a'awa on O'ahu is an eroding sea.'
 (Kahananui & Anthony 1974:108)

¹⁰ The non-English terms in example (18) are not traditional Hawaiian words but rather mnemonic expressions that the authors have borrowed from other Polynesian languages or invented based on Polynesian or Hawaiian roots. In Kamanā and Wilson (1990:iii), the authors write *i'oama'uli* and *i'oapaku* as compounds, while (1991:21) they write them as separate words (*i'oa ma'uli* and *i'oa paku*). Kamanā and Wilson (1990, 1991) do not define *kikino* as 'common nouns' but judging by the *kikino* words in their vocabulary lists, it is clear that that is what they are.

¹¹ The gloss I have given for example (19a) is my own. Kamanā and Wilson (1991:26) translate that sentence as 'The decision to use the *nei* form or the *ala* form in each case will be up to you'.

- b. *Ma ka mana'o "become", a'ohe ka'i ma hope o ka i.*
on the meaning "become", NEG det. in after of the i
'With the meaning "become", there is no determiner after the i.'
(Kamanā & Wilson 1991:12)

It is very likely that there are other noun classes that belong to more than one category. This aspect of this phenomenon also deserves future research.

A cross-Polynesian investigation of this phenomenon might turn up interesting observations. Churchward's (1953:88) description of locative nouns and placenames in Tongan makes them seem very similar to Hawaiian placenames and locative nouns with respect to case markings. In my own work on Samoan, the only thing I have noticed that is similar to the Hawaiian situation is that the names of the months are sometimes treated like personal names with respect to the alternation between the locative/directional case marker *i* for common nouns and *iā* for personal names.¹² These facts are surprising, given that Tongan and Samoan are Western Polynesian languages while Hawaiian belongs to the Eastern Polynesian subgroup. Future research could also involve an exploration among the cultures of the other Polynesian groups for phenomena that would support their case-marking patterns, phenomena such as, for example, the importance of place that Kanahele (1986) has argued for in the Hawaiian culture.

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¹² According to Mosel and Hovdhaugen (1992:98), the names of the months are preceded by *iā* in Biblical Samoan and 'sporadically in modern written texts'.

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Section Two

‘Space in mind’

6 *Absolute spatial reference and the grammaticalisation of perceptually salient phenomena*

BILL PALMER

1 Introduction¹

Traditionally, the way in which languages structure spatial reference has been assumed to in some way reflect the way humans conceptualise spatial relations. Until recently, it was widely assumed across a range of disciplines that the way in which familiar European languages structure spatial reference reasonably accurately reflects linguistic universals of spatial reference. Consequently, as Levinson (1992b:7) puts it, ‘the semantics of Indo-European prepositions have been presumed to give us more or less direct access to the structure of innate mental categories’.

A major assumption proceeding from this has been that humans conceptualise spatial relations in a fundamentally egocentric way. Philosophers, psychologists, anthropologists, linguists and cognitive scientists have assumed that we think of spatial relationships in relation to ourselves, or to objects that we anthropomorphise. Our own bodies provide the initial and most basic tool for conceptualising of spatial relationships, and this is reflected in linguistic spatial reference. I have a front, so I can say *the table is in front of me*, and since houses can also be seen as having a front I can also say *the car is in front of the house*. I can even say *the red ball is in front of the blue ball*, or *behind it*, or *to the left of it*, or in some dialects even *to its right*, although balls have no front or back or left or right. While it is possible in English to refer to spatial relations in the absolute frame of reference by using cardinal point terms, English speakers would not normally say *the table is to my north* or *the car is to the west of the house*. The egocentric, anthropomorphic referential system is employed in English for a much wider range of relationships and scales than cardinal terms, and with far more confidence and accuracy. Consequently it has been assumed that spatial cognition is fundamentally egocentric and anthropomorphising, while the absolute frame plays

¹ I am grateful to Giovanni Bennardo and Catriona Hyslop for comments on earlier drafts of this paper, and to those who commented on my 1997 paper on aspects of this topic delivered at the Second International Conference on Oceanic Linguistics in Hamilton NZ. Needless to say any errors or inaccuracies are my own.

a minor supporting role. Levelt (1989:49–50) articulates this in saying ‘the most basic system of local [i.e. spatial] reference is...primary deictic reference’. This system ‘has the speaker as the origin...[and] two horizontal dimensions [these are] the speaker’s front/back dimension [and] the speaker’s... left/right dimension’.²

However in the last decade work on more diverse languages has demonstrated that this is not the only way languages code spatial relations. Many languages make much less use of an anthropomorphic referential framework than English, while others make virtually no use of it at all, employing instead systems of spatial reference that are fundamentally absolute. The Australian language Guugu Yimidhirr (Levinson 1992a; Haviland n.d., 1993), for example, makes no use whatsoever of notions such as ‘in front of’ or ‘to the right of’. Spatial reference is only possible within an absolute frame, even in the most immediate scale. A Guugu Yimidhirr speaker would ask someone to ‘move a bit east’ on a bench, and would describe an object as being ‘on the southern edge of the western table’. It is not simply that speakers tend not to use other frames of reference, the language actually does not make it possible. There is no grammatical way of saying the equivalent of *the car is in front of house*.

Evidence of this kind has dramatically challenged traditional assumptions. It has demonstrated that until now we have been looking at only part of the picture of linguistic spatial reference. The consequences of this for assumptions about spatial cognition are, needless to say, significant.

However, just as not all spatial reference systems are anthropomorphic, not all absolute systems are alike. The evidence of Australian, Mayan, Dravidian, Papuan, Austronesian and other languages indicates that absolute reference systems vary widely. Many of these linguistic groupings have been the subject of only very limited research in spatial reference. Given the overwhelmingly widespread use of Indo-European languages as the source for earlier spatial research, absolute reference is more poorly understood than relative or intrinsic reference. This can only be rectified by the examination of systems of spatial reference in numbers of genetically and culturally diverse languages spoken in varied topographic and geographic environments; and by the synthesis of this data as evidence of the parameters of linguistic spatial reference.³

The aim of this paper is to make a small contribution to these objectives in two ways. The first of these will involve examining evidence on absolute reference in a number of languages, primarily Oceanic. In particular, a number of features of absolute spatial reference that are widespread in Austronesian languages will be surveyed and characterised. This will include presenting data resulting from primary research carried out by the author among the Kokota (North-West Solomonic).⁴

The paper will make a number of tentative observations on the implications of the results of this survey for an understanding of the nature of linguistic absolute spatial reference, and the relationship between linguistic systems of reference and perceptually accessed phenomena

² See §2 of Brown and Levinson (1993) for a discussion of the egocentric assumption.

³ Levinson (1992b) is an essential starting point for any field research on this matter.

⁴ Subgrouping assumptions and terminology used in this paper for Western Melanesian languages (primarily located in PNG and the Solomon Islands) is adopted from Ross (1988). Primary research on the Kokota language was funded by the 1992 and 1993 Peter Lawrence Memorial Scholarships, and 1994 Frank Coaldrake Scholarship; the Faculty of Arts of the University of Sydney; Professor Bill Foley; and the University Research Committee of the University of the South Pacific. This funding is gratefully acknowledged.

in the physical world. The implications of this for an understanding of cognition, and for the debate on linguistic determinism, will be foreshadowed.

The primary aim of this paper, however, is not to make any major claims about the nature of spatial cognition, or even of linguistic spatial reference. Instead, its aim is to canvas certain aspects of, and issues central to, linguistic absolute spatial reference, to form a basis from which future research into linguistic spatial reference, and consequently spatial cognition, can proceed.

2 Frames of reference

Before proceeding it is worth characterising explicitly what is meant by absolute reference. This is particularly important for the present purposes because absolute reference in many Austronesian languages involve axes which appear to be directionally variable if viewed from the perspective of the English cardinal point system. In fact these directions are wholly consistent within the systems in which the axes occur, but to an English speaker they may not appear on casual inspection to be 'fixed'.

2.1 A typology of frames

The typology of frames of reference adopted here is that proposed by Levinson (1996:134–148). This is an advance on previous typologies. Each frame of reference is characterised explicitly, and independently, rather than in part defining one in terms of another as many previous typologies have done. Although each is characterised independently, this is done on a consistent basis using an inventory of primitives, rather than defining each on separate criteria. Finally Levinson clearly disassociates deixis from frame of reference, a crucial distinction that is frequently blurred.

Levinson proposes that all spatial reference operates within one of three possible frames: intrinsic, relative and absolute.

The intrinsic frame is employed in expressions such as:

- (1) a. *The cat is in front of the TV.*
- b. *John is in front of the car.*
- c. *The desk is in front of me.*

An intrinsic relationship is binary, meaning that it has exactly two arguments: the referent and the relatum. The referent (also known as the figure) is the object to be located—*the cat, John, the desk*, while the relatum (or ground) is the coordinate centre (the object the referent is to be located in relation to)—*the TV, the car, me*.⁵ Crucially, the search domain (the region which the relation indicates the referent is to be located in) is projected off the relatum on the basis of an asymmetry assigned to the relatum itself. In example (1) each relatum is assumed to have a 'front'. This may be determined on the basis of a perceived 'inherent' structure (*my 'front'*), or functionally (the 'front' of *the TV*), or on the basis of canonical motion (the 'front'

⁵ Levinson uses both sets of terms 'figure' and 'ground', and 'referent' and 'relatum'. I have adopted the terminology proposed by Levinson (1992b, fn. 24), including 'referent' and 'relatum'. For a discussion of the notions 'figure' and 'ground' see Talmy (1983).

of *the car*), and so on.⁶ Fundamentally, an intrinsic relation involves locating the referent on the basis of perceived features of the relatum, not merely its location.

Unlike the intrinsic frame, the relative frame is ternary, involving three arguments—the referent, the relatum, and the ‘viewpoint’. The relative frame is employed in expression such as:

- (2) a. *The ball is in front of the post.*
 b. *John kicked the ball to the left of the post.*
 c. *The ball is in front of the post from where you are standing.*

Here the search domain is projected off the relatum on the basis of the location of a viewpoint (which is the primary coordinate centre). In example (2a) the location of *the ball* is identified in terms of a search domain projected off the post towards an unstated viewer, assumed to be the speaker. In (2b) the search domain is projected off *the post* in relation to the location of *John*, and in (2c) it is projected off *the post* towards the addressee. In each case, the referent is located on the basis of the location of the relatum and the viewpoint, but without reference to any features other than location.

Absolute reference resembles intrinsic in that it is binary, but resembles relative in that it does not involve any features of the relatum other than its location. It is employed in expressions such as:

- (3) a. *The car is north of the house.*
 b. *The cat is east of me.*

In this frame, relations are pre-established arbitrary fixed bearings. The search domain is projected off the relatum on the basis of a bearing which is codified by a culture and language. So in (3b) *the cat* is located in terms of a search domain projected off *me* in the arbitrary direction we as English speakers agree on and agree to call *east*. An absolute system involves a culture and language-specific set of such bearings which are superimposed onto the referent and relatum (or perhaps within which the referent and relatum are placed).

A crucial difference between the absolute frame and the intrinsic and relative is that with intrinsic and relative frames each array in question provides its own internal spatial framework. The absolute frame on the other hand requires constant recalculation within the arbitrary set of bearings. As Levinson says, this

requires that persons maintain their orientation with respect to the fixed bearings at all times. People who speak such languages can be shown to do so... How they do so is not known at the present time, but we may presume that a heightened sense of inertial navigation is regularly cross checked with many environmental clues. (1996:145)

The complexity of this task may be presumed to vary depending on the specific nature of the absolute system employed, and the extent to which clear environmental clues are present. However, the need to constantly maintain this orientation remains.

⁶ Note, however, that there is considerable cross-cultural diversity in the assignment of ‘inherent’ asymmetry. Two cultures may assign the ‘front’ to an object in different ways. In other instances an asymmetry may be assigned to an object in one culture but not in another. For example in Muna (Van den Berg 1997:211) objects such as nails, peanuts, leaves and eggs have an ‘intrinsic’ front and back.

2.2 Deixis and frame of reference

It will be noted that none of these frames of reference correspond to a notion of deixis.⁷ In fact 'whether the centre is deictic... is simply irrelevant to this classification' (Levinson 1996:138). Deixis may occur in any frame:

- (4) a. intrinsic: *The desk is in front of me.*
- b. relative: *The ball is in front of the post.*
- c. absolute: *The cat is east of me.*

However it is not an essential feature of any frame:

- (5) a. intrinsic: *The cat is in front of the TV.*
- b. relative: *John kicked the ball to the left of the post.*
- c. absolute: *The car is north of the house.*

It should also be noted that the fundamental distinction between deixis and other aspects of spatial reference, such as frame of reference, is often obscured by the widespread use of the term deixis simply to refer to any aspect of spatial or temporal relationships. In fact, deixis more accurately refers to a particular kind of spatial or temporal relationship: that which is dependent on the spatio-temporal coordinates of the speech event. It is one parameter of spatial reference, which interacts with other parameters. Discussion of this parameter and the nature of these interactions may be confused by this terminological overuse.

2.3 Frames of reference in Austronesian languages

What systems of spatial reference occur in Oceanic and other Austronesian languages?⁸ Many, perhaps all, make some use of the intrinsic frame, usually coded linguistically using local or relational nouns, adpositions and so on. Notions such as *in front of the house* can be expressed in that way in some Austronesian languages.⁹ In others it is not possible. In Taba, for example, the notion 'front' can be used to locate a packet of cigarettes in relation to a chair, but they must be actually making contact with the surface of the chair (they are literally 'on the face of the chair'). If they are not making contact, even if the distance is small, this intrinsic reference is impossible (Bowden 1997:260).

Relative reference also occurs in at least some Austronesian languages, but with extremely limited functions, typically only occurring to the extent that a search domain can be projected off a symmetrical relatum on sides expressed in relation to the speakers left and right, and on the *side towards* or *side away from* the viewpoint.

While the intrinsic frame occurs widely, referential systems operating within the absolute frame appear to be universal in Austronesian languages. In some languages it appears that very small-scale relations are expressed using an intrinsic system, while larger-scale relations

⁷ For a recent discussion of the nature of deixis see Levinson (1996:134–138). Bühler's (1934) explicit characterisation of deixis was seminal and remains a useful introduction.

⁸ See Senft (1992, 1997a:18–22) for a survey of earlier research into Austronesian spatial systems.

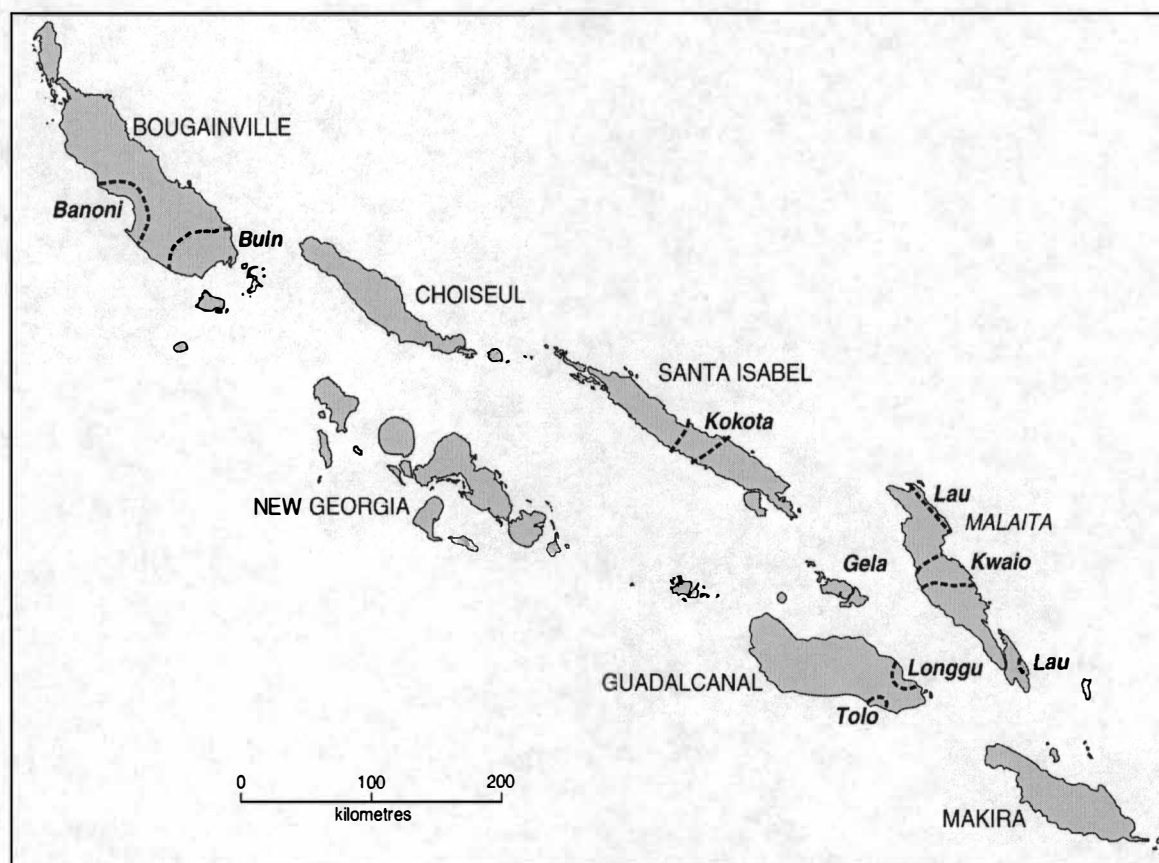
⁹ See for example Muna (Van der Berg 1997:203–211), Longgu (Hill 1997:103–106), Kwaio (Keesing 1997:136–139), Tongan (Broschart 1997:290–297).

are expressed absolutely. This superficially resembles English, however in Austronesian languages absolute systems are typically used for much smaller-scale relations than in English, sometimes apparently to the extent of Guugu Yimidhirr.

The present paper is concerned only with referential systems operating within the absolute frame of reference. It is beyond the scope of this work to deal with the relationship between intrinsic, relative and absolute systems and the ways they interact in individual languages. Instead the focus will be on what kinds of absolute systems exist in Oceanic and other Austronesian languages and how they are structured.

3 Absolute referential systems in Austronesian—some basic features

To survey some of the fundamental features of absolute spatial reference in Austronesian languages it will be useful to begin by looking at Longgu (Hill 1997). Spatial reference in this language has been described in detail, and its spatial system includes several features which are crucial to an understanding of absolute reference in many Austronesian languages. These features can be usefully introduced by proceeding from Hill's case study. A number of further features of absolute reference that are tangential to the present discussion can also be dealt with in this way.



Map 1: The language loci of Longgu, Tolo, Kwaio, Lau, Gela, Kokota, Buin and Banoni

3.1 Spatial reference in Longgu

Longgu (South-East Solomonian) is spoken along a narrow coastal strip of north-eastern Guadalcanal between the mountains and the sea, and in Nangali, a region about a mile and a half inland, from which the sea is not visible.

Spatial reference in Longgu makes use of several strategies in which the relation between referent and relatum is intrinsic, the main one involving a system of local nouns. A limited relative system makes use of the body part terms for left and right, as well as *aba mai* 'side hither' and *aba hou* 'side thither'. However most of the spatial referential work is done by a system operating within the absolute frame (referred to by Hill as 'geographical reference').

The Longgu absolute system involves a pair of crossed axes representing two non-vertical dimensions, plus the vertical axis. Both of the two non-vertical axes are differentiated for direction, giving a four-direction, four-term horizontal system.

Both of these horizontal axes represent conventionalised directions. One represents a conventionalised line corresponding to a regularised coastline, northwest–southeast, about 45 degrees off our cardinal east and west. This is expressed by the directional terms *toli*, glossed by Hill as 'west;' and *ala'a*, glossed as 'east'. The other axis is a landward–seaward axis involving the directionals *longa*, glossed by Hill as 'inland', coding a direction away from the coast towards the inland; and *asi* 'sea', coding the opposite direction towards the coast. The landward–seaward axis crosses orthogonally a regularised coastal line, while the 'east–west' axis corresponds to that line.

The possibility that the relationship between the bearings of these crossed axes and the coastline is coincidental can be ruled out. The form *asi*, while functioning as a grammaticalised directional glossed as 'seaward', is also a common noun meaning 'sea' (discussed in more detail in §3.4). Moreover, cognates of *longa* in closely related languages indicate directions away from the coast towards the hinterland, regardless of the direction this indicates in our cardinal terms. In Tolo (Crowley 1986), spoken on the opposite side of Guadalcanal from Longgu, *longa* refers to a direction which in cardinal terms is the opposite to that in Longgu. It would be implausible to suggest that this term has been arbitrarily assigned to an arbitrarily selected direction which only coincidentally runs away from a coast towards a hinterland wherever it occurs.¹⁰ Moreover, Longgu speakers associate *asi* and *longa* with directions towards and away from the coast. It is clear that there is a psychologically real relationship of some kind between this axis and the coastline.

An implication of this is that the system of spatial reference in this language involves axes the directions of which correspond to some phenomenon in the physical world. This may seem wholly unremarkable until we realise that this means that this grammatical system is structured on the basis of something which is accessed through a perceptual modality, a matter I will return to later.

The facts of the Longgu system also prompt a question as to why a coastline should provide the basis for a system of spatial reference.

¹⁰ In some other South East Solomonian languages such as Gela (Fox 1955), where the language is spoken everywhere on relatively small islands, cognates of *longa* unambiguously encode 'landward'.

3.2 The boundary between land and sea

The role of a coastline in shaping the system of spatial reference in Longgu is repeated throughout the Austronesian world.¹¹ In an attempt to explain why this should be so I offer the following hypothesis.

Humans are terrestrial creatures, and as such the boundary between land and sea is perceptually highly salient for humans who encounter it. It separates our natural physical domain from an alien environment in which we are at a considerable disadvantage, where we are 'out of our element'. It marks off inhabitable space from a domain we can only pass into or onto for short periods. Many Austronesian languages are spoken by communities who live by or near the sea. For members of these communities this boundary is consequently highly salient, and this is reflected in the fact that many of these languages have systems of absolute spatial reference that make some use of directionals that can be glossed as 'landward' and 'seaward'. These languages demonstrate that the boundary between land and sea is sufficiently perceptually salient to form the basis of a grammaticalised system of spatial reference.

This boundary in part forms the basis of the system of absolute spatial reference in Longgu. The 'east–west' axis corresponds to the boundary, while the landward–seaward axis is orthogonal to it. However the axes of the Longgu system do not correspond directly to that boundary as a real coastline with all its irregularities and variances in the form of bays, headlands and so on. Instead the axes relate to a conceptual line representing a regularised version of the real coastline.

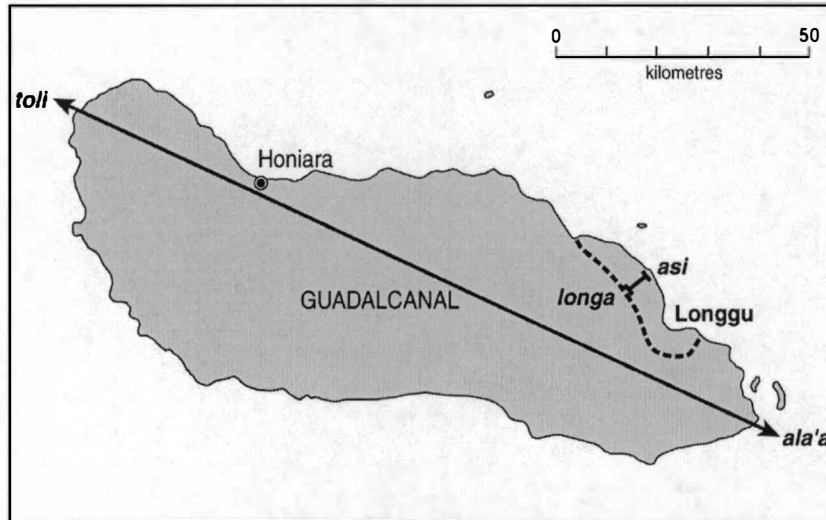
As Map 2 indicates, the coastline in the Longgu area runs roughly northwest–southeast. Indeed, as Map 1 shows, the Solomon Islands consists primarily of longish islands oriented along that rough line. Consequently most Solomons speech communities are located on or near a coastline following that orientation. The Longgu conceptual coastal line is one common in the Solomons: a regularised northwest–southeast line (though the precise bearings in cardinal terms vary somewhat). The Longgu 'east–west' axis corresponds to this conceptual line, representing a line oriented in cardinal terms northwest–southeast. The landward–seaward axis is orthogonal to that conceptual line, and therefore represents a line oriented in cardinal terms northeast–southwest.

3.3 The path of the sun

The Longgu 'east–west' axis corresponds to a regularised coastal line that does not, in fact, run exactly east–west in cardinal terms. This raises an important issue associated with understanding (and glossing) directional terms. What does it mean to say a direction is 'east' or 'west'? English cardinal terms are often used in discussions of other systems of spatial reference as though they have an independent natural world existence. In reality they are merely features of certain culturally specific systems of spatial reference (the English system among others). It is a striking illustration of how fundamental to human world-view concepts spatial relations are, that even researchers into spatial reference often proceed from a tacit assumption that north, south, east and west have some independent natural world existence. A striking example is C.H. Brown's (1983) extensive crosslinguistic survey intended to identify universals in the lexical coding of 'the four cardinal directions'. He correctly

¹¹ See Adelaar (1997), Bowden (1992:57–58), Senft (1997a:18–22).

concludes (1983:146) that cardinal directional terminology often reflects a basis in the 'rising and the setting of the sun', being 'the most obvious natural features associated with these directions'. But for Brown these features are merely *associated* with the cardinal directions, which implicitly pre-exist the terminology.¹² At no point does Brown deal with, or appear to be aware of, the question of what these cardinal directions actually represent. Moreover, the results of his survey are of limited value, as all the data is interpreted in terms of cardinal directions. Thus while it is true that east–west terminology often relates etymologically to features of the path of the sun, much of Brown's data relates *only* to the path sun, and not to any spatial referential or conceptual structure.



Map 2: Longgu directional terms mapped (after Hill 1997)

He finds, for example, that in the Mayan language Tzeltal the term for east is literally 'direction where the sun goes up' (1983:128) and west is 'direction where the sun puts down' (1983:129). However, these look like descriptive references to the path of the sun, rather than terms in a grammaticalised system of spatial reference, because that is exactly what they are. Tzeltal absolute referential structure in fact makes primary use of an axis derived from a regularisable overall fall of land, lexified by directional terms glossed as 'uphill' and 'downhill' (P. Brown 1991; Brown & Levinson 1991). In the mountainous Tzeltal-speaking region a significant overall change in altitude occurs from one end of the region to the other, with dramatic commensurate differences in climate, flora, land use and so on. This overall fall of land corresponds to an axis which is a regularised version of the real topography. Trivially, this axis happens to correspond roughly to north–south in cardinal terms. A secondary derived cross axis runs orthogonal to the uphill–downhill axis, trivially corresponding to cardinal east–west. However Tzeltal speakers do not associate this cross axis with the path of the sun, but purely as orthogonal to the uphill–downhill axis. The locations of sunrise and sunset can be referred to in Tzeltal using *slok'ib k'aal* 'the coming out

¹² Brown (1983:142–143) says, for example, that the 'frequently encountered etymological transparency of terms for cardinal directions and the fact that these generally do not seem to reconstruct for languages of the remote past suggest that for much of human history cardinal points have been of little interest to people'. 'East' and 'west' tend to be lexified before 'north' and 'south' because they 'are clearly, if only roughly, defined by the rising and setting of the sun'.

of the sun' and *smalib k'aal* 'the spilling of the sun', but these do not lexify directions on the cross axis, and do not form part of the grammatical system of spatial reference (see Brown & Levinson 1991:7–8).

So what are the cardinal directions? The English absolute system is often treated as though the orienting direction is 'north', as indicated by a compass.¹³ However, this is not usually the primary orienting direction in the system. Firstly, compasses have only become widespread in recent times, and cardinal point terminology (and therefore the cardinal referential system) substantially predates this development. More significantly, etymologies of the associated terminology indicate that it is not north but east that is the orienting component of the system (as Brown (1983) rightly observes). *East* is reconstructable to Proto Germanic, and is associated with the name of the goddess of the dawn. The term *orient* (Middle English from Latin) itself indicates that the act of orienting involved identifying the location of 'east', and in Latin *oriens* meant both 'east' and 'sunrise'. It is clear from the extensive data presented by Buck (1949) that in Indo-European languages absolute spatial terminology is associated etymologically with the path of the sun: terms for east and west are derived from sunrise and sunset, terms for north and south are often derived from left or right when facing sunrise, and so on.

This lexical evidence relates to the origins of the system, but since the forms are synchronically opaque it does not provide evidence about the synchronic system. However, other evidence indicates that these associations are retained synchronically. This is apparent in the way speakers of languages such as English orient themselves. Under normal circumstances, when it is necessary to locate a cardinal direction English speakers will determine the location of east or west on the basis of the path of the sun, and derive the other directions in relation to that (with observations such as 'that's where the sun comes up so that's east', 'sunset's over there so this must be north' and so on). Functionally, European cardinal point terminology is primarily based on the path of the sun.¹⁴

Like the boundary between land and sea, the path of the sun is a physical world phenomenon which is accessed through a perceptual modality. The sun is a prominent celestial body that moves perceptibly, and is apparent a considerable amount of the time. More significantly, the events of the sun rising and setting mark the boundaries between a period of light, when humans are able to operate at their perceptual optimum, and a period of dark, when our capacities are diminished. Moreover, these salient events occur in readily perceptible and relatively constant locations. It is not surprising then that this physical world phenomenon is also perceptually highly salient, sufficiently so to form the basis for systems of spatial reference.

The English cardinal system is associated with the perceptually salient phenomenon of the path of the sun, and English cardinal terms have meaning on that basis, so what does it mean

¹³ The standard map arrangement of placing North at the top, and the widespread cartographic strategy of indicating only north, play their part in giving North the appearance of the orienting direction. However, maps are not orienting tools. Instead, they require the user to already be oriented. In doing so, however, they do direct the user to attend to the location of North.

¹⁴ With a recent, marginal overlay of magnetic north. In fact the so-called 'true north' or map north only roughly corresponds with magnetic north. There are apparently in fact two magnetic north poles at present, one under Siberia and one under Canada. A magnetic south pole is under Chile, but a second is forming under the Indian Ocean. All these move around at a rate of several kilometres each year. Of course, for ordinary purposes magnetic north is close enough to 'true' north to correspond as closely as is practically necessary on a compass.

to use the terms 'east' and 'west' to gloss directions in the spatial referential systems of other languages? The terms are usually used to refer to any axis that even vaguely correlates to the cardinal east–west axis. But there are in fact unintentionally two distinct uses. One involves glossing as 'east' and 'west' directional terms on an axis which is motivated by the path of the sun. The other involves glossing as 'east' and 'west' directions on an axis which has nothing to do with the path of the sun but is based on some other phenomenon. This second use fundamentally misrepresents and obscures the nature of the system being described. It is perfectly possible, for example, to say that Tzeltal has an east–west axis. But to do so implies that this axis is motivated by the path of the sun, and creates an expectation that it is primary in the system, or at least of equal primacy with the other axis. This obscures the fact that the Tzeltal system has a primary axis based on the regularisable fall of land, and a derived cross axis orthogonal to the primary axis. As we have seen, the Tzeltal axis which corresponds roughly to cardinal east–west is not motivated by the path of the sun, but is a derived axis trivially coinciding with what we, in an entirely different system, call east–west. It is impossible to understand the Tzeltal system if we think of it in terms of east and west.

The same is true of north and south. These terms refer to directions on a cross axis that is derived orthogonally from a primary path-of-the-sun axis, but are widely used to define any directions corresponding to our north and south, regardless of the conceptual basis of the axis. As a typical example, Crowley (1986) defines the Tolo term *longa* as 'north', quite understandably given that in the region where Tolo is spoken the direction lexified by *longa* corresponds roughly to cardinal north. However Tolo *longa* lexifies 'inland' on an axis that resembles the Longgu inland–seaward axis, where *longa* also lexifies 'inland'. In Longgu, on the north coast, *longa* corresponds roughly to cardinal south. In Tolo, on the south coast, it corresponds to north. While those correspondences exist, to gloss the term as 'north' in Tolo or 'south' in Longgu obscures not only the real meaning of the term *longa*, but the nature of the systems of spatial reference that exist in those languages.

Consequently I propose that the terms 'east', 'west', 'north' and 'south' with an initial lower case letter should only be used to describe systems of spatial reference with the following definitions:

- | | |
|----------|--|
| (6) east | 'the direction of sunrise on an axis associated with the path of the sun' |
| west | 'the direction of sunset on an axis associated with the path of the sun' |
| north | 'the direction left when facing sunrise on an axis which is a secondary axis derived from, and crossing orthogonally, a primary axis associated with the path of the sun' |
| south | 'the direction right when facing sunrise on an axis which is a secondary axis derived from, and crossing orthogonally, a primary axis associated with the path of the sun' |

In certain domains of activity, however, a system is used in English and some other languages, in which the orientation of the axes is based on compass north (often represented as map north). In these domains the basis for the system is different to the normal path-of-the-sun based system, although in English the same terminology is used. To distinguish directions on axes that are based on compass bearings from those in (6), alternative terminology could be used:

- (7) compass north 'the direction indicated by the pointer on a compass on an axis associated with the direction indicated by a compass'
- compass south 'the direction opposite the direction indicated by the pointer compass on an axis associated with the direction indicated by a compass'
- compass east 'right when facing the direction indicated by the pointer on a compass, on an axis which is a secondary axis derived from, and crossing orthogonally, a primary axis associated with the direction indicated by a compass'
- compass west 'left when facing the direction indicated by the pointer on a compass, on an axis which is a secondary axis derived from, and crossing orthogonally, a primary axis associated with the direction indicated by a compass'

In synchronic English it is likely that for many speakers the system has simultaneous associations of both path-of-the-sun and compass directions. Thus to many English speakers 'North' is both 'the direction indicated by the pointer on a compass' and 'left as you are facing the sunrise', and east is simultaneously 'the direction of the sunrise' and 'right as you are facing magnetic north'. Nonetheless, the associations are separate. Capitalised variants of the forms in example (6) should be used only to refer specifically to the directions in (6) and (7) as they pertain in the English system of spatial reference:

- (8) East 'east and compass east in the English system of spatial reference'
- West 'west and compass west in the English system of spatial reference'
- North 'north and compass north in the English system of spatial reference'
- South 'south and compass south in the English system of spatial reference'

The terms in (6) and (7) belong to a cross-cultural set of spatial concepts. The terms in (8) are directions in a language-specific referential system.

So what is the basis of the Longgu 'east-west' axis, which runs northwest to southeast, corresponding to a regularised coastal line? Two main possibilities exist: it is a true east-west axis associated with the path of the sun; or it interacts with the land-sea axis in a system based solely on the boundary between land and sea in a way that trivially coincides with a rough east-west. The first of these possibilities appears to be the case: according to speakers of Longgu, directions on this east-west axis 'are derived from the rising and setting of the sun' (Hill 1997:106). Longgu speakers associate this axis with the path of the sun, and so unlike the Tzeltal cross axis this Longgu axis is an east-west axis in the narrower definition proposed above.

The structure of the Longgu spatial systems thus differs in a crucial way from that of Tzeltal. In Tzeltal the uphill-downhill axis is based on a regularisable overall fall of land. The cross axis is not independently based, with its own associated phenomenon, but is derived from the uphill-downhill axis. Its line is determined solely by the line of the primary axis. The Tzeltal system thus involves a primary axis based directly on a salient phenomenon, with an orthogonal secondary axis with no independent basis. Interestingly, both directions on this cross axis are lexified by *ta jejch*, glossed by Brown and Levinson (1991:7) as 'the traverse'. But it is misleading to think of this as colexification. Within the Tzeltal system there are three conceptual directions—uphill, downhill, and orthogonal to uphill-downhill. While in one

sense the traverse instantiates two directions, in another sense it represents a single direction. It is noteworthy that the traverse axis is both secondary and derived, and undifferentiated for direction.

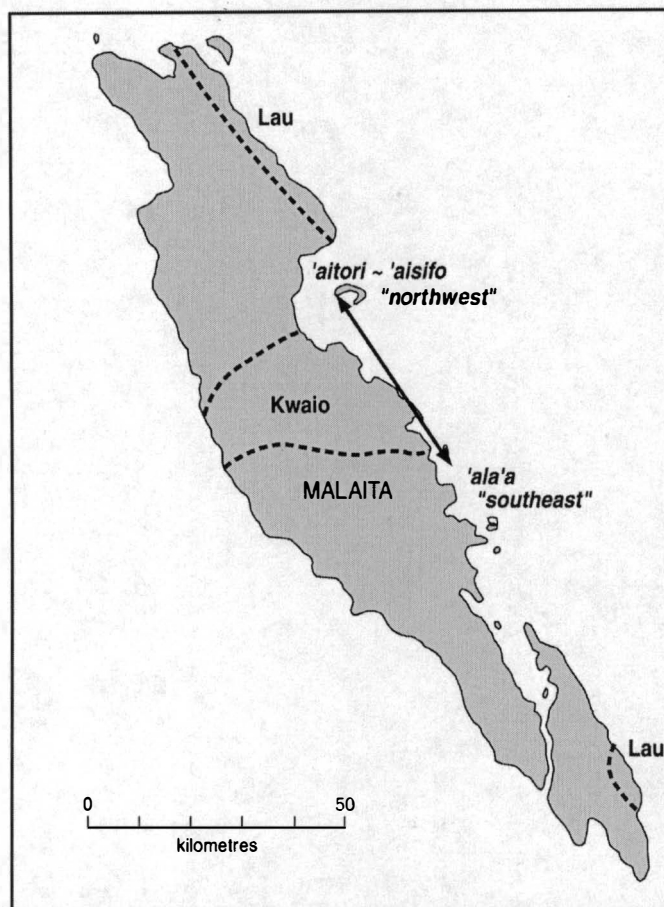
By contrast Longgu has two independently based axes. The *longa-asi* axis is a landward–seaward axis based on the boundary between land and sea, while the *toli-ala'a* axis is an east–west axis based on the path of the sun. However, this east–west axis does not correspond exactly to cardinal east–west. Instead it is skewed to allow it to run orthogonal to the land–sea axis. The path of the sun appears to be representable in a way that is sufficiently flexible to allow this skewing, apparently more so than the boundary between land and sea.

This raises the question of the extent to which such skewing is possible. In Longgu's close relative Kwaio (Keesing 1985, 1997) an axis exists which corresponds to a regularised coastal line, and is lexified with cognates of the Longgu east–west terms. Keesing identifies these directions as 'northwest' (*'aitori* or *'aisifo*) and 'southeast' (*'ala'a*). However the orientation of the island of Malaita is not the same as that of Guadalcanal. While the Longgu *toli-ala'a* axis runs less than 45° off cardinal East–West, the Kwaio axis runs considerably more so, as Map 3 indicates. The same is true in neighbouring Lau, where the bearing of the same axis in fact prompted Fox (1974) to define the cognates *toli* and *'alaa* as 'north' and 'south' respectively. Keesing does not discuss what conceptual basis the Kwaio *'aitori-'ala'a* axis might have. He does say that although Kwaio speakers 'sometimes distinguish between east and west (*ta'elana sina* "rising of the sun" and *suulana sina* "setting of the sun"), they are generally unconcerned with cardinal points and absolute directional grids' (1997:139). In fact the *'aitori-'ala'a* axis functions within an absolute frame of reference as defined in §2.1, and as Longgu and other languages illustrate, the absence of an axis corresponding exactly to cardinal east–west does not remove the possibility of the existence of an axis motivated by the path of the sun. The terms he presents for east and west are descriptive phrases and do not form part of the Kwaio grammaticalised system of spatial reference (like the Tzeltal phrases cited earlier in this section). However his remarks do carry the implication that he is unaware of an association between the directions on this axis and the path of the sun, and it seems unlikely that Keesing would have missed such an association. However, it remains to be determined whether this axis in Kwaio and Lau is in fact motivated by the path of the sun, or by some other phenomenon, or is a secondary cross axis derived from another, primary, axis.

3.4 Grammatical systems, directional terminology and ordinary nominals

In the discussion above, the Tzeltal and Kwaio terms for the location of the sunrise and sunset were excluded from those languages' systems of absolute spatial reference because they were not part of a grammaticalised system. This paper is concerned with linguistic evidence on the nature of spatial cognition. This evidence is sought in grammatical systems of spatial reference. Any location can be referred to in a language and used to locate an object or a direction of motion, but this does not necessarily constitute part of a grammatical system. In this paper evidence is sought in what Talmy (1983:227–229) refers to as the 'fine-structural level' of language. As Talmy points out, 'within the scope of a sentence, a paragraph, or a whole discourse if need be, one can convey conceptual content of any sort, including...the organization of space... The main resource for this level is a language's stock of open class lexical items...' In contrast, the fine-structural level consists of closed class grammatical forms 'including grammatical elements and categories, closed-class particles and words, and the syntactic structures of phrases and clauses' (1983:227). Forms at this level are only able

to express limited aspects of the conceptual domain they represent. As such 'the closed-class forms of a language taken together represent a skeletal conceptual microcosm' (1983:228).



Map 3: The language loci of Kwaio and Lau, and the Kwaio 'aitori'- 'ala'a axis

The Longgu system has four directional terms lexifying horizontal axes. These in turn may reflect a conceptualisation of spatial relations. This conceptualisation may be argued to be a cognitive response to perceptually highly salient phenomena in the physical world. All this follows for Longgu because the directional forms constitute a grammatical system in the sense described by Talmy.

Three of the four Longgu directionals are members of a closed class, and behave syntactically in a way that distinguishes them from ordinary nominals. Any nominal which may express a location can function as the complement of the preposition *vu* 'towards', and this is also true of the directionals, as (9) and (10) illustrate. However, the directionals may also function as the complement of a verb of motion, such as *lae* 'go', while ordinary nominals may not. Conversely, ordinary nominals may function as the complement of the

locative relational noun *ta-*,¹⁵ while the directionals may not, also exemplified in (9) and (10).¹⁶

- (9) a. **Lae malaba.*
 go garden
 *‘Go gardenwards.’
- b. *La vu malaba.*
 go towards garden
 ‘Go towards the garden.’
- c. *La vu ta-na malaba.*
 go towards LOC-3SGP garden
 ‘Go to the garden.’
- (10)a. *Lae longa.*
 go inland
 ‘Go inland.’
- b. *La vu longa.*
 go towards inland
 ‘Go towards the inland.’
- c. **La vu ta-na longa.*
 go towards LOC-3SGP inland
 *‘Go to the inland.’

The syntactic possibilities shown for the directional *longa* ‘landward’ also apply to *toli* ‘west’ and *ala’a* ‘east’. The situation is somewhat different with *asi*, which Hill glosses as ‘sea’. It occurs both as a directional meaning ‘seaward’ and as an ordinary nominal referring simply to the sea.¹⁷ This polysemy is reflected in the form’s syntactic behaviour:

- (11)a. *Lae asi.*
 go sea
 ‘Go seaward.’
- b. *La vu asi.*
 go towards sea
 ‘Go towards the sea[ward].’
- c. *La vu ta-na asi.*
 go towards LOC-3SGP sea
 ‘Go to the sea.’

¹⁵ The form *ta-* is obligatorily marked with an inalienable possessor suffix. Hill describes *ta-* as a nominal preposition (1997:103) and a locative preposition (1997:109–111), following the common practice of analysing such forms in Oceanic languages as prepositions which are somewhat noun-like. I prefer to analyse the form as a locative relational noun whose argument structure subcategorises for a locative complement, and would gloss the form as something like ‘the location of’.

¹⁶ The examples in (9), (10) and (11) are from Hill (1997 and pers. comm.).

¹⁷ The form is cognate with ordinary nominal terms for ‘sea’ found widely in Oceanic languages. (See for example the discussion of Tokelauan in §5.3.)

The fact that (11a) and (11c) are both grammatical indicates that the form has both a directional and a nominal function. The form *asi* may refer to the sea in the same way that *malaba* refers to a garden, but it may also refer to a location that is not consistent with the location of the sea, but is a location which is seaward on a landward–seaward axis. Example (12) refers to Nangali, a region out of sight of the sea in the Longgu-speaking hinterland. The use of *asi* in line two does not indicate that the woman in question lived at the sea, but that she lived in the part of Nangali that is seaward on the landward–seaward axis.

- (12) *Rua geni ni nangali-gi arua gale-'a,*
 two woman of PLACE-PL 3DL child-full of
 'Two Nangali women were pregnant,'
te'e ii'o asi, te'e ii'o longa.
 one stay seaward one stay inland
 'one lived to the seaward, one lived to the landward.'

In the following discussion it may be assumed that source materials indicate that directional terms given for various languages function as directional or locative particles or affixes, either uniquely like *longa*, or alongside other nominal senses like *asi*, and that the systems under discussion are closed grammatical systems of absolute spatial reference and are thus comparable.

3.5 Unbounded versus bounded axes

Within the English absolute spatial system the axial directions indicated by *North*, *South*, *East* and *West* tend to be treated as though they are unbounded, that is, as though they extend in the relevant direction without any end point. That is certainly true of East and West. An aircraft flying due East can continue around the curve of the earth until, fuel permitting, it reaches its point of departure and beyond. At every point on this journey the direction of the plane remains East. There does not, for example, come a point where the plane is flying West. East and West have no conceptual end points. This is not the case with North and South. English speakers tend to include within their conceptualisation of these directions notions of north and south poles—the conceptual end points of these directions. An aircraft flying due North will reach a point where it is no longer thought of as flying North but is suddenly now flying South, even though it has not veered from a straight trajectory. The plane can continue to fly South until eventually it reaches a point where it is suddenly flying North again. The poles form conceptual end points to these directions. However, although North and South have end points, they do provide exhaustive coverage—there is no point on the planet which is outside the scope of the concepts of North and South. More to the point, in the normal course of human experience and activity, these directions are for all practical purposes unbounded. They indicate a conceptual line which continues to the edges of any speaker's habitual environment and beyond, outside the range that most speakers are likely to ever cover. However, not all axes occurring in linguistic systems of spatial reference involve directions which are unbounded, or only bounded by conceptual end points outside the scope of the normal speaker's life.

In Longgu the *toli-ala'a* east–west axis is unbounded. These terms refer to directions which extend northwest and southeast to the edge of Longgu-speaking territory, beyond that to

the far ends of Guadalcanal, to the northwest and southeast extremes of the Solomon Islands, and beyond, with no conceptual end point. In addition, the axis can be used on land, or at sea.

This is not also true for the landward–seaward axis. This axis is in fact highly constrained. According to Hill (1997:106, 116), *longa* and *asi* only refer to directions within the two areas inhabited by Longgu speakers—the traditional Longgu area, and the Solomon Islands' capital Honiara. It is hard to imagine this is a principled feature of the system. These terms would presumably be used if possible in other locations, for example if Longgu speakers found themselves on the coast between Honiara and the Longgu-speaking area. Nonetheless, wherever it may be used, the extent of each direction on the *longa-asi* axis is limited. *Asi* 'seaward' codes a direction starting from the inland extending directly towards the coast as far as the shoreline itself, but does not extend beyond that out to sea. It refers only to that direction on land. Conversely, *longa* 'inland' begins at the shore line and extends only to the inland edge of the Longgu-speaking area, or to the inland boundary of Honiara. Other terms are available for areas beyond this, including *tolo* 'bush', *aba* 'other side' (of the island), *rara* 'shore' and *mwatawa* 'ocean, out to sea'. However, these are ordinary nouns not grammaticalised directionals, and do not refer to any axis or specific direction. The landward–seaward axis is constrained to inhabited areas of land.

Constraints on the scope of landward–seaward axes occur in a number of Oceanic languages, but many are not as highly restricted as in Longgu, while in others directions on this axis are unbounded. Nor are the constraints always symmetrical. In Tongan, for example, *uta* 'landward' can be used at sea to refer to a direction straight towards land, or on land to refer to a direction directly away from the coast towards the inland. However, the opposite direction, *tahi* 'seaward', can only be used on land to refer to a direction away from the inland towards the coast. It cannot be used at sea to indicate a direction away from land (Taumoevalau pers. comm.). The constraints in the Longgu system are not a universal feature of landward–seaward axes.

The potential for boundedness creates the possibility of confusion in schematic and mapped representations of spatial systems. A line on a map representing an axis may indicate conceptual directions extending beyond the limitations of the map. Alternatively the end point of the representational line may be intended to indicate a conceptual boundary. Consequently I propose the following convention. A line representing a bounded axis will end in a bar in a schematic representation. On a map the terminating bar will appear at the limit of the direction. A line representing an unbounded axis in a schema will terminate in an arrow. On a map a line terminating with an arrow will indicate either that the direction is unbounded, or that it terminates outside the range of the map. This convention appears in Map 2, where the east–west axis is shown as unbounded, while the landward–seaward axis is shown as having end points. This convention will be used in the present paper. With some of the languages under discussion available sources do not indicate whether axes are bounded or unbounded. Where that is the case I will terminate these representational lines with arrow endings, since even if the axes are bounded, their scope is not apparent. In these instances that ambiguity will be indicated.

3.6 Quadrants and vectors

In the English cardinal system each direction is thought of as a vector, a conceptual line extending from a point of origin in the direction referred to, and in that direction only. This is, however, not a universal feature of absolute spatial reference. In Guugu Yimidhirr (Haviland

n.d., 1993) the four absolute spatial terms refer to regions delineated by right angles that expand out from any given point, dividing the world into four equal quadrants.¹⁸

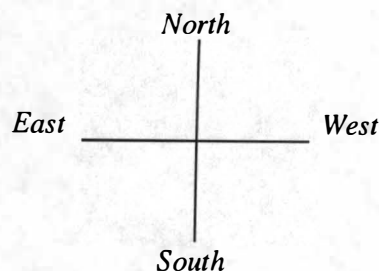


Figure 1: English vectors

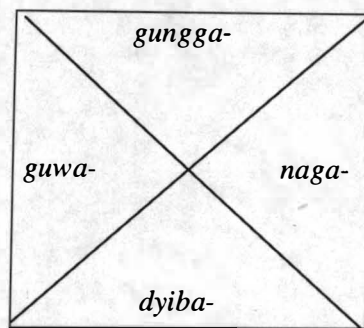


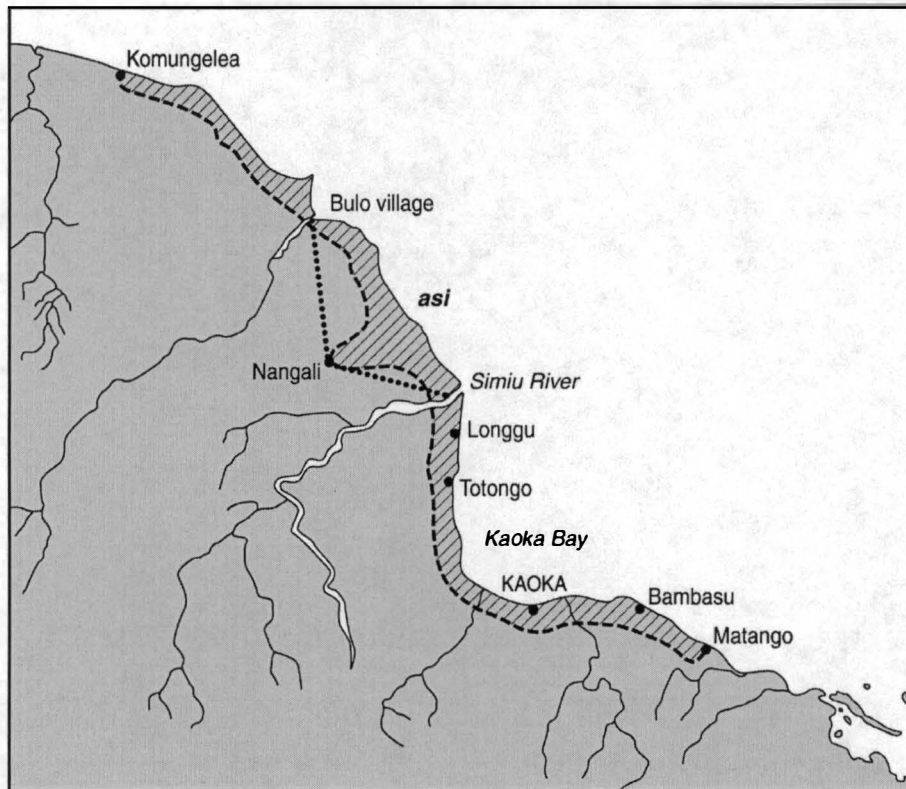
Figure 2: Guugu Yimidhirr quadrants¹⁹

In English we refer to the Blue Mountains as being *West* of Sydney, and we also refer to Canberra as *West* of Sydney. But Canberra is not 'real' *West* in the way that the Blue Mountains are: we think of it as South of true West, and we can express that with *Southwest*. In Guugu Yimidhirr, however, both would be located within the same conceptual quadrant, so Canberra would really be *guwa* in relation to Sydney in a way that it's not true *West*.

In Longgu the directional terms refer to quadrants rather than vectors. So as Map 4 indicates, the directional *asi* 'seaward' when used in the inland region of Nangali refers to an area bounded at the coast by Bulu village and the Simiu River. Everything on the far side of the Simiu River is *ala'a* 'east', and everything on the far side of Bulu is *toli* 'west' (Hill 1997:109–110).

¹⁸ In English we talk of cardinal points, with the idea that vectors referred to by directional terms extend from the origo to some 'point' which is the furthest location on that vector that we choose to think about at any given time. This use of the term 'point' imposes arbitrary end points on directions which in the case of East and West are unbounded, and in the case of North and South involve end points that may not correspond to the cardinal point in terms of distance along the vector away from the origo. The same applies to Guugu Yimidhirr, where the four directional roots are described as referring to the edges of a 'hypothetical rectangular plane' (Haviland 1993:5). However, although Haviland goes on to say that 'if something is *guwa* "westward", it lies on the western edge or in the western quadrant of the space in which one is centred', there is nothing in the literature to indicate that these Guugu Yimidhirr directionals are actually bounded, or that speakers have this rectangle with its outer edges as part of their conceptual spatial structure. Moreover, these directionals are used to refer to locations at any distance from the origo. The term 'edges' is thus misleading, and as Levinson implies (1992a:4), 'edges' in this context really refers to the quadrants themselves.

¹⁹ Note that although the Guugu Yimidhirr roots are usually glossed with English cardinal terms, with *gungga-* as 'north' and so on, the correspondence is not exact. The Guugu Yimidhirr system is about fifteen or twenty degrees clockwise of the English system. This means, for example, that more of the *gungga-* quadrant is east of cardinal north than is west of it.



Map 4: The *asi* 'seaward' quadrant from Nangali (after Hill 1997)

On the basis of this, the Longgu system can be schematised in the following way:

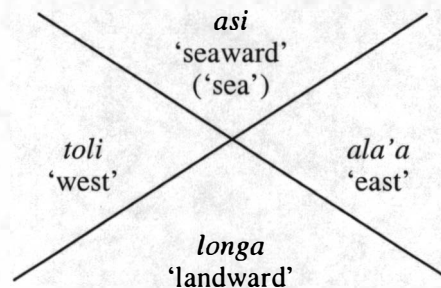


Figure 3: The Longgu absolute spatial system schematised

As with boundedness, it is not clear from many descriptions of spatial terminology whether the directions are conceptually quadrants or vectors. It seems likely on the basis of available evidence that many Oceanic languages make use of quadrants. For languages discussed in this paper, where it is clear that directionals involve quadrants, they will be schematised as such. Where their status is not clear, directionals will be schematised with a line. This will not be intended to imply that the directions are conceptually vectors. Rather, it will represent an axis corresponding to a notional line that either represents a vector, or evenly bisects a quadrant. The term 'axis' will be used in conjunction with both vectors and quadrants, to refer to the same notional line.

4 Primary and secondary axes

4.1 Primary and secondary axes in fall-of-land and path-of-the-sun based systems

As we saw in §3.3, a regularisable overall fall of land is the perceptually salient phenomenon which is the basis for absolute spatial reference in Tzeltal. This is also true in neighbouring Tzotzil. However, in the Tzotzil-speaking area the fall of land happens to run east–west, not north–south. Consequently the Tzotzil uphill–downhill axis corresponds to cardinal east–west, and the cross axis to north–south. In both languages the axis which corresponds to the fall of land is the primary axis. The cross axis is simply derived orthogonally from the primary axis and is thus secondary: there is no evidence of a perceptually salient phenomenon underlying the traverse axis in either language. That axis is oriented differently in relation to other phenomena such as the path of the sun in the two languages, but identically in relation to the uphill–downhill axis. Furthermore, the fact that the directions are not differentiated itself suggests that this axis is conceptually less important. It would be hard to imagine a system motivated by a single perceptually salient phenomenon that distinguishes direction on a derived axis, but not on the primary axis. Secondary derived axes are not always directionally undifferentiated, however it seems plausible to suggest that the fact that an axis is undifferentiated is evidence that it is secondary.

The phenomenon of the path of the sun has similar implications for the primary and secondary status of axes. An east–west axis will be primary, since it corresponds directly to the phenomenon that motivates it. In a system with no other motivating phenomena a north–south axis will be secondary and derived, a traverse deriving its bearings from a primary axis corresponding to the path of the sun. This was originally the case in many Indo-European languages. In all IE languages surveyed by Buck (1949:870–873), the etymologies for terms for east and west are connected with the rising and setting of the sun or an orientation facing sunrise. In some Indo-European languages terms for north and south are etymologically associated with phenomena unrelated to the path of the sun, such as wind directions. At the time these systems were lexified, the axes were based on separate phenomena, much as the Longgu system is. In other languages terms for north and south are derived from terms for left and right, reflecting an orientation facing sunrise, and revealing a historically derived secondary status for that axis. In still others, however, south is lexified by terms etymologically related to terms for the middle of the day. This is also motivated by the path of the sun—in the northern hemisphere south is the location of the sun at midday. It is arguable that in such languages this gives the north–south axis its own primary status, despite both axes being derived from the same phenomenon. However, none of Buck's languages derive terms for north directly from the path of the sun. In three (Breton, Czech and Polish) the term for north is related to 'midnight', however there is nothing about the location of the sun which is evident at midnight. All these three languages also have terms for south connected with midday. It seems likely that with terms for south connected with midday, these languages extended the relationship between midday and midnight to the relationship between south and its opposite, giving rise to this lexification. Equally some, such as Lettish, lexify north in connection with winter, possibly with a similar opposition to the sun's zenith.

Although in some languages a concept of south was motivated directly by the path of the sun, at least at the time it was lexified, terms for north indicate a partially derived status for the north–south axis. A direct relationship between the path of the sun and south is rare, but east–west axes motivated in that way are very common. Further, it appears that no language associates south (or north) with the path of the sun without also having an east–west axis

motivated by that phenomenon, while many languages have a path-of-the-sun east–west axis but no solar south. All this suggests that the location of sunrise and sunset are the most salient elements of the path-of-the-sun phenomenon, and that an east–west axis is primary. The cross axis is secondary and derived orthogonally from the primary axis. One direction on the cross axis may be lexified with direct reference to the underlying phenomenon, but I suggest that this association would only be conceptually meaningful in a system motivated by the path of the sun.

Having said that, it is worth noting that while the absolute spatial systems of languages like English were originally motivated solely by the path of the sun,²⁰ this is not the case in the synchronic system. The east–west axis remains conceptualised in relation to the path of the sun, the conceptual basis of the north–south axis has altered to include a notion of magnetic/map north and a conceptual line running between the north pole and the south pole. In a sense English has a system like Longgu where each axis has its own conceptual basis. However for most English speakers' north–south axis this conceptual basis is quite weak.²¹ The phenomenon that underlies it is not apparent without special equipment, and speakers normally locate directions on this axis with reference to the path of the sun. However, to the extent that the north–south axis has its own conceptual basis, it illustrates an important point. The etymologies of terms in an absolute system do not necessarily tell us anything about the conceptual basis of the synchronic system, especially if the terms are synchronically semantically opaque to speakers. The etymology of semantically opaque terms may provide information about the nature of a spatial system at earlier stages in a language community's history, or changes that have taken place in the system over time (and presumably therefore in some cases evidence about the geography of earlier homelands), but it provides extremely weak evidence about the synchronic basis of a system.

Before proceeding I would like to propose formalising the distinction between primary and secondary axes by explicitly defining the term 'primary axis' as an axis which is directly motivated by a perceptually salient physical world phenomenon; and 'traverse' as a secondary axis, an axis which has no motivating physical world phenomenon of its own, and which derives its bearing from another, primary, axis. I would also like to define the term 'undifferentiated traverse' as a derived axis for which a language does not lexically distinguish the opposing directions.

On the basis of these definitions, Longgu can be seen to have two primary axes operating together in a single system, with no traverse, and Tzeltal can be seen to have a primary axis crossed by an undifferentiated traverse. For most speakers English has a primary axis (East–West) with a traverse that does differentiate direction (North–South). For the few English speakers in one specific situation, navigating by compass, the motivating phenomenon is not the path of the sun but the direction of magnetic north. In this situation it is the compass north–south axis that is primary and compass east–west that is derived.

²⁰ Buck suggests that the English *North* is probably ultimately traceable from a term for 'left', while *South* is derived from a term which may relate to the sun at midday or a sunny region.

²¹ Except perhaps for people like sailors and pilots who deal frequently with compass directions.

4.2 Primary and secondary axes in systems motivated by the boundary between land and sea

The evidence from Tzeltal and Tzotzil suggests that a regularisable overall fall of land will motivate a primary axis oriented along the fall of land, and the evidence from Indo-European languages suggests that the path of the sun will motivate a primary east–west axis corresponding to that path. The question remains, what primary axis does the boundary between land and sea motivate? Evidence on this is found in certain Oceanic languages with spatial systems motivated at least in part by the boundary between land and sea.

Nemi (Ozanne-Rivierre 1997), like Longgu, is spoken on a regularisably straight section of coast on a longish island (Grand Terre, New Caledonia). Like Longgu its system of absolute spatial reference includes an axis that corresponds to a regularised coastal line, and an axis that runs at right angles to it. However, unlike Longgu, Nemi makes a distinction on the basis of scale of reference, with different systems applying in two scales. One system is used for relations across the whole island or for inter-island travel. The other applies to smaller-scale relations: within a single valley, a village or a house. The large-scale system makes use of an axis corresponding to the regularised line of coast, and an axis orthogonal to that line.

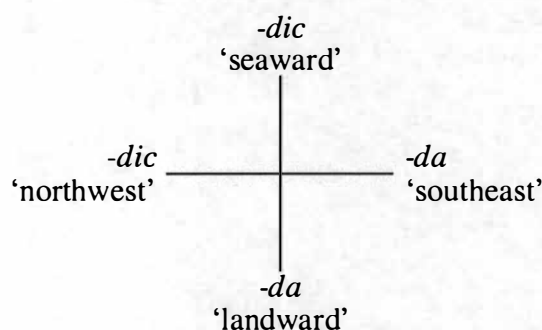


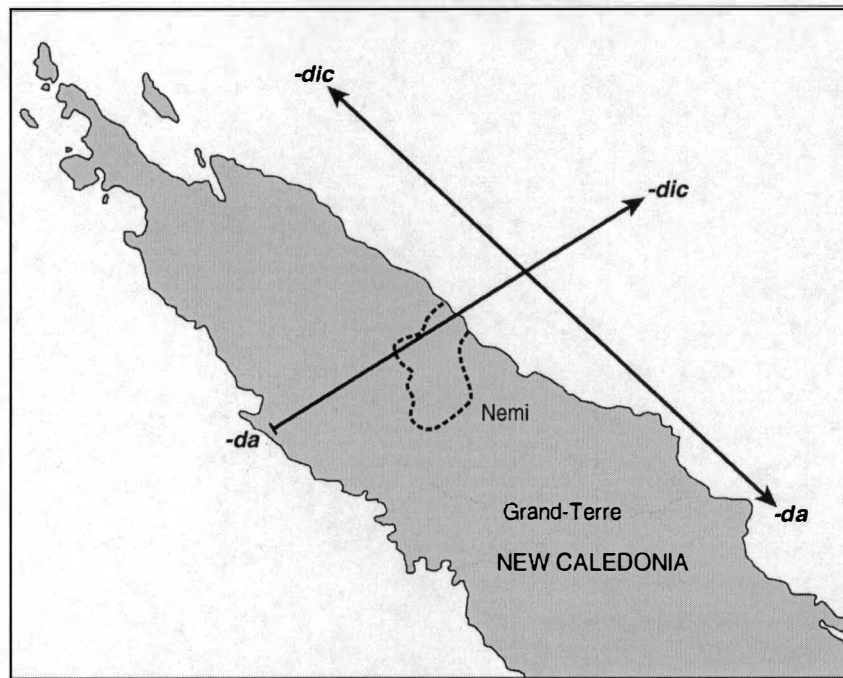
Figure 4: Large-scale reference in Nemi²²

It is not clear whether these directions reflect quadrants or vectors.

The Nemi landward–seaward axis is much less bounded than its Longgu equivalent. The seaward direction is unbounded, extending from the hinterland towards the coast, across it, out to sea to the Loyalty Islands and beyond towards Vanuatu. Landward, however, is bounded. It extends from out to sea towards the coast and across it into the island, extending as far as the west coast, but apparently no further. The axis that corresponds to the line of coast is unbounded, as in Longgu, and extends indefinitely to the northwest and southeast (see Map 5).

²² It will be noted that in Figure 4 the pair of terms on each of the two axes are colexified. The colexification of one non-vertical axis with the vertical axis is common in Oceanic languages. Large-scale reference in Nemi represents an extreme example of this, with the axes in all three dimensions colexified. This does not undermine the discrete status of each axis:

	verb	directional	verb	directional
	<i>ta</i>	<i>-da</i>	<i>tic</i>	<i>dic</i>
vertical	ascend	upward	descend	downward
landward–seaward	go landward	landward	go seaward	seaward
'northwest'–'southeast'	go southeast	south-eastward	go northwest	north-westward



Map 5: Nemi large-scale reference mapped (after Ozanne-Rivierre 1997)

The same landward–seaward axis is used in the smaller scale. The difference between the two scales lies with the other axis. In the smaller scale the axis orthogonal to landward–seaward is an undifferentiated traverse (lexified by Ozanne-Rivierre as ‘across’), and is lexified separately to its large-scale counterpart.

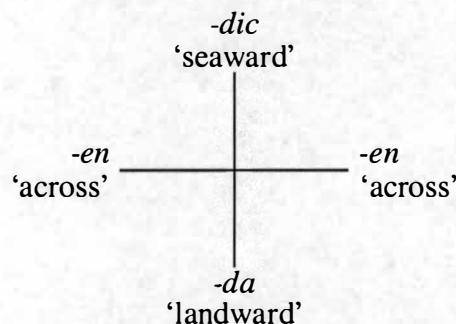


Figure 5: Small-scale reference in Nemi²³

The Nemi landward–seaward axis applies consistently throughout the system of absolute reference. The axes that cross this are conceptually distinct. The larger-scale orthogonal axis is differentiated for direction, and like the equivalent axis in Longgu, it is based on a separate underlying perceptually salient phenomenon, in this case the direction of the prevailing winds. Ozanne-Rivierre reports (pers. comm.) that the axis corresponding to the line of coast is defined in terms of the path of tradewinds that blow from southeast to northwest. In the small scale, wind direction appears to play no part. The axis orthogonal to the landward–seaward axis is an undifferentiated traverse derived from a primary landward–seaward axis.

²³ This figure is not intended to imply that these axes involve vectors rather than quadrants. A system similar to that shown in this figure is found in the nearby language Cèmuhî (Ozanne-Rivierre 1997).

Undifferentiated traverse axes in systems underpinned by the land–sea boundary are not limited to small-scale reference as in Nemi. In Tolai (Mosel 1982) a single uniform system operating in all scales involves a directionally differentiated land–sea axis and an undifferentiated traverse (glossed by Mosel as ‘same level’).

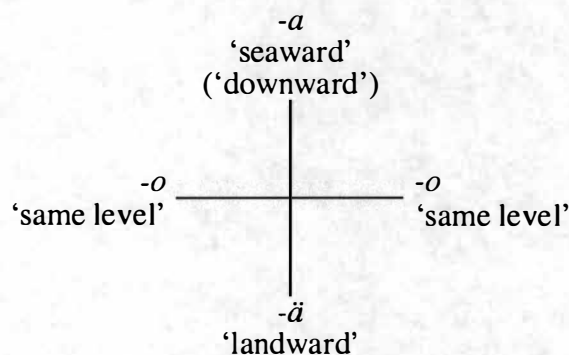


Figure 6: The Tolai undifferentiated traverse

It is not clear whether these axes refer to quadrants or vectors, or are bounded.

There is no evidence that the undifferentiated Tolai axis has any associations independent of the landward–seaward axis. The absence of a motivating phenomenon for this axis at any scale may reflect the geography of the Tolai-speaking area. Here the coastline is significantly less regularisable than that of the Longgu-, Kwaio- or Nemi-speaking areas. Not all directional axes are straight. In many languages axes correspond to a motivating phenomenon the features of which do not allow a conceptual straight line. It may be that the Tolai coastal axis corresponds to the boundary between land and sea everywhere, even if the line of coast in various places means that this direction is variable in cardinal terms (as is the case in some other languages). If so, the cross axis is unlikely to correspond to any other physical world phenomenon, such as wind direction or path of the sun. Unfortunately it is not clear whether this is true for Tolai.

What is clear, however, is that the Tolai landward–seaward axis is differentiated for direction while the coastal axis is not. As with Tzeltal and small-scale Nemi, this in itself suggests that the landward–seaward axis is primary, and the cross axis derived. Further, in Nemi the landward–seaward axis applies uniformly throughout the absolute system, while the cross axis is conceptually and lexically distinct in different scales. This also suggests that the landward–seaward axis is primary.

The crucial evidence from Longgu, Nemi and Tolai regarding the comparative statuses of a landward–seaward axis and a coastal axis may be summarised as follows:

- Where the boundary between land and sea motivates only one axis in a system, that axis is the landward–seaward axis (as in Longgu and large-scale Nemi).
- Where the boundary between land and sea underlies both axes, but only one axis is differentiated for direction, that axis is the landward–seaward axis (as in Tolai and small-scale Nemi).

These points suggest that the boundary between land and sea will motivate a landward–seaward axis as a primary axis, and that where an axis orthogonal to the landward–seaward axis is not motivated by its own separate perceptually salient phenomenon, it will be a secondary and derived traverse axis.

The evidence from these three languages does not appear to be exceptional. It appears that any language with a system of absolute spatial reference motivated even in part by the boundary between land and sea will have a landward–seaward axis. Numerous languages, like Longgu, have a landward–seaward axis motivated by this boundary, but a further axis with some other motivation. However I am not aware of any languages that have an axis corresponding to that boundary (i.e. corresponding roughly to the coastal line) without also having a landward–seaward axis. While some Austronesian languages make scale distinctions on an axis orthogonal to a landward–seaward axis, I am not aware of any examples of scale variation on the landward–seaward axis. Finally, while some Austronesian languages have a directionally undifferentiated axis that crosses a landward–seaward axis, I am not aware of any undifferentiated landward–seaward axes.

One could be forgiven for expecting *a priori* that the perceptually salient phenomenon of the boundary between land and sea would motivate a primary axis corresponding to that boundary. However, the Austronesian evidence suggests that for humans the boundary between land and sea is fundamentally salient when it is crossed, that going from land into or onto the water, or from the water onto land, is much more salient than travelling parallel to that boundary. As a result the primary axis resulting from a response to this perceptually salient phenomenon is the landward–seaward axis, not a coastal axis.

A clear illustration of derived secondary axes in path-of-the-sun and land–sea boundary based systems may be seen in the identity of the undifferentiated traverse in two distinct but complementary systems of absolute spatial reference operating in Iaaï (Ouvea, New Caledonia). Like a number of languages in remote Oceania, Iaaï has two distinct systems of absolute reference operating in two distinct domains: a system of small-scale reference used in relation to the immediate region, both on land and around the coast; and a large-scale system used on the scale of the entire island or archipelago (what one might call a ‘navigational scale’).²⁴ This dichotomy is presumably present in languages such as Iaaï and Ponapean (Rehg 1981:288–289), and not in languages such as Longgu and Kokota, because the former are spoken on small isolated islands where periodic travel on the open ocean may be necessary, while the latter are spoken on large islands closely located to other large inter-visible islands, where only occasional short inter-island crossings are necessary.

In Iaaï (Ozanne-Rivierre 1997:90–91), these two complementary systems are, not surprisingly, motivated by different phenomena. The small-scale system involves a landward–seaward axis, with an undifferentiated traverse (resembling Tolai and small-scale Nemi):

²⁴ This parallels English, where the intrinsic and relative frames are used for small-scale reference, and the cardinal point system for long-distance travel. Note, however, that in Oceanic languages with this dichotomy, the systems applying in both scales are absolute.

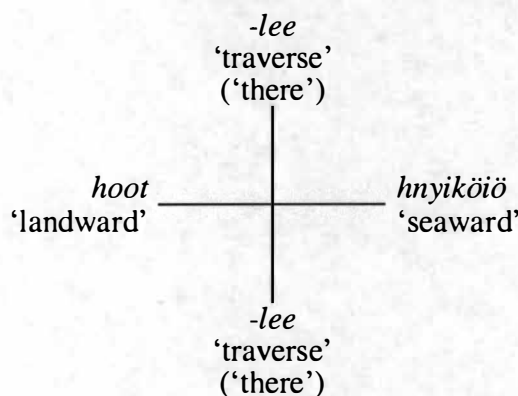


Figure 7: Iaa small-scale reference²⁵

The Iaa system of large-scale reference is used for travel between islands and on the scale of the entire island 'to situate villages on the east and west coast'. This system involves an east–west axis, which Ozanne-Rivierre reports is 'defined with respect to the sun', and again an undifferentiated traverse:

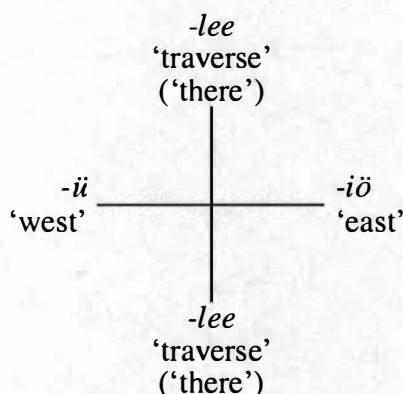


Figure 8: Iaa large-scale reference²⁶

Here two distinct systems co-exist, one motivated by the path of the sun, the other by the boundary between land and sea. In the former it is the landward–seaward axis which is differentiated and uniquely lexified, and in the latter the east–west axis. In both, the other axis is an undifferentiated traverse, adding to the evidence supporting the secondary status of cross axes relating to both motivating phenomena. However, Iaa provides stronger evidence for the secondary status of these cross axes, in that the undifferentiated traverse in both scales is identically lexified. The use of the same term for directions on the cross axis in both scales, and the fact that this term also has a separate directionally non-specific demonstrative function, suggests that the term is used to lexify directions which have no independent basis, supporting the hypothesis that these undifferentiated traverses are derived and secondary.

To propose that a phenomenon in the physical world is perceptually highly salient is to make a universal claim about cognition. Any phenomenon which is claimed to be perceptually highly salient must be equally salient to all humans who encounter it, regardless of whether their language's system of spatial reference includes axes motivated by that

²⁵ This figure is not intended to imply that these axes involve vectors rather than quadrants.

²⁶ This figure is not intended to imply that these axes involve vectors rather than quadrants.

phenomenon. This predicts that the path of sun will be salient to all sighted humans. It also predicts that the boundary between land and sea will be salient to all humans who encounter it. If it is also true that the primary axis motivated by the boundary between land and sea is one which is orthogonal to it, then it must suggest a conceptual line orthogonal to that boundary to all humans. It should, for example, be possible to appeal to it in English, even though a landward–seaward axis plays no part in the English system of absolute spatial reference. And there is evidence that this is so. Marine route descriptions may include statements such as: ‘Head north along the coast until you reach the lighthouse’. The lighthouse in this example would never be reached as it is on land. The point referred to in this instruction would be interpreted by an English speaker as a point corresponding to that of the lighthouse on a line crossing the coast at right angles. It would not, for example, be interpreted as referring to a point where the lighthouse first becomes visible.

This interpretational appeal to a conceptual (but not linguistic) landward–seaward axis is evident in an Australian beach safety convention expressed by the phrase ‘swim between the flags’. Crucial to this instruction is a superficially anomalous use of the preposition *between*. A referent encoded as being between two relata (or two parts of a complex relatum) will normally be interpreted as being located in a search domain projected off each relatum (or part of the relatum) towards the other relatum (or part of the relatum). In other words, it will be located somewhere on the conceptual line running directly from one relatum to the other and bounded by the two relata. In Figure 9, for example, the key is between the two cups, while in Figure 10 it is not. The location coded by *between* does not extend out from a conceptual line running directly from one cup to the other far enough to encompass the key in Figure 10, even though it may be less than a metre away from either cup.

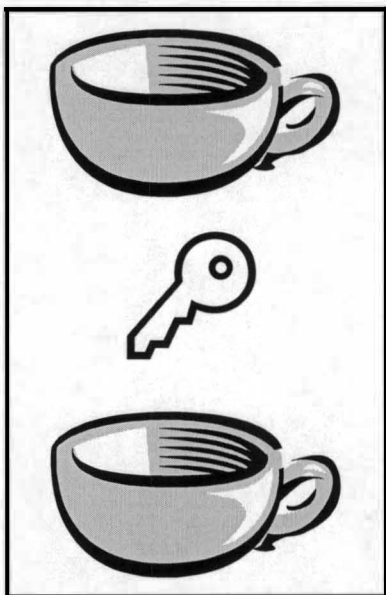


Figure 9: The key is between the cups

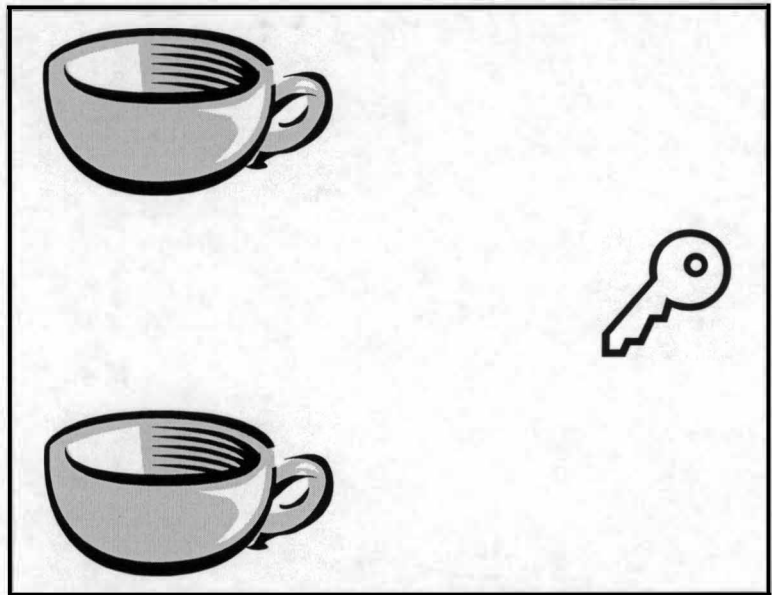


Figure 10: The key is not between the cups

However, if a comparable array is transferred to a coastline, the situation changes. On many Australian city beaches, an area of sea adjacent to one part of the beach may be designated by lifesavers as safe to swim in. This area of sea is indicated by placing two flags on posts into the sand well above the high tide mark, and erecting a sign with the instruction 'swim between the flags'. If *between* in this instruction was interpreted in the way it is in Figure 9 it would appear to require swimmers to swim on the sand half way up the beach. However, no English speaker would interpret this instruction in this way, or have any difficulty interpreting it correctly, even if encountering it for the first time. Swimming involves water, so the immediate interpretation of *between* here is semantically anomalous. Some other way of understanding the instruction must be found, and the one that immediately presents itself is that *between* refers not to a space bounded by the flags themselves, but by two conceptual lines running orthogonal to the land-sea boundary from the flags and out to sea. In Figure 11 the swimmer is between the flags in a way that the key is not between the cups in Figure 10. It is not clear how far out to sea this line can be interpreted as extending, however it appears to be some distance. It would, for example, be perfectly acceptable to say something like *the fool swam two hundred metres out to sea, but at least he was still between the flags*.

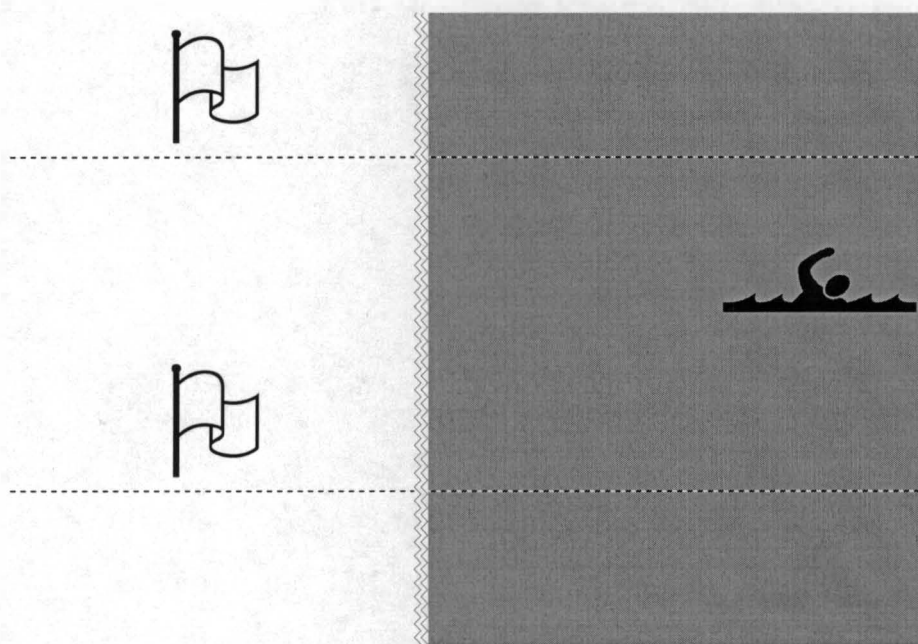


Figure 11: The swimmer is between the flags

No English speaker would have difficulty interpreting the instruction 'swim between the flags'. However, given the meaning of *between*, the instruction is only not semantically anomalous because it appeals to the same perceptually salient phenomenon that underlies the grammaticalised landward-seaward axis in Austronesian languages. Although this phenomenon is not grammaticalised as part of the English spatial system, the instruction shows that this phenomenon is highly salient, and any appeal to it makes immediate sense.

5 The dependency of systems of absolute spatial reference on motivating phenomena

In §4 it was suggested that phenomena in the physical environment of a community will underlie features of the systems of absolute spatial reference in that community's language. Implicit in this is a dependency of the system on the environment. Clearly a language spoken in the centre of a large continent will not have a system employing a landward–seaward axis, nor will a language spoken on an atoll make use of elevational terms like those found in some Papuan and other languages (see §6.2). This has implications for the integrity of systems which have been relocated due to speaker migrations, or to diversity of geographic or topographic features in the language locus. It also has implications for the way systems with the same conceptual basis will be structured in different environments. This is more significant for systems motivated by certain kinds of physical phenomena than it is for others.

The path of the sun is apparent everywhere humans normally live. Moreover, everywhere where it is apparent, its orientation is roughly the same. In far northern and southern latitudes sunrise will be more towards the south or north than due east, however that also applies to the location of sunset. Therefore, a straight axis motivated by this phenomenon is likely to point as close to the location of sunrise as possible in one direction while at the same time pointing as close to possible to the location of sunset in the other. The resulting axis will thus still roughly represent a line from east to west. (Such an axis may be skewed to allow it to interact orthogonally with an axis motivated by a different underlying phenomenon, as in Longgu.) It is interesting to consider the possibility of a hypothetical language spoken in very far northern or southern latitudes, which has a curved primary path-of-the-sun axis, with the annual average location of sunrise and sunset as the core directional points on this axis. I am, however, not aware of such a language.

Since the path of the sun is similar everywhere, migrations and diverse geography and topography will not necessarily require any modifications to the system. The same cannot be said for a regularisable overall fall of land, or for the boundary between land and sea. The systems of absolute reference found in Tzeltal and Tzotzil are internally identical, but differ to the greatest possible extent in cardinal terms because the regularisable fall of land runs north–south in the Tzeltal-speaking region and east–west for the Tzotzil. Equally, the boundary between land and sea varies in its physical characteristics, with commensurate implications for the orientation and structure of systems motivated by this phenomenon. Both Nemi and Longgu are spoken on sections of coast along one side of a long island, and their systems are similarly structured in terms of the boundary between land and sea. However, other languages are spoken on both sides of a long island, or on islands with coastlines that are curved not roughly straight, or on atolls. What happens to a system motivated by the boundary between land and sea in these environments?

5.1 Kokota—a language spoken on both sides of an island

Longgu and Nemi are each spoken on one side of a long island on a regularisably straight stretch of coast. Kokota (Solomon Islands) is also spoken on regularisably straight stretches of coast on a long island, but as Maps 1 and 6 show, it is spoken on both sides of that island. The system of absolute spatial reference in Kokota is conceptually similar to the Longgu system, however the language's location on opposing sides of the island has implications for that system.

Like Longgu, Kokota has a landward–seaward axis, and orthogonal to that, an east–west axis running northwest–southeast. Both axes are differentiated and all four directions are lexified with unique directionals.²⁷ But the system can not be identical on both sides of Santa Isabel. Kokota is spoken in three villages—Goveo and Sisiga on the northeast coast, and Hurepelo on the south-west coast.

In Goveo and Sisiga, a direction from the mountainous interior towards the coast, from the village to the shore, and away from the shore out to sea, is *rauru*. The opposite direction from the sea towards land and then on into the interior is *rhuku*. On the east–west axis northwest is *paka*, and southeast *fona*. This was schematised by my informant, James Tikani, in Goveo village:

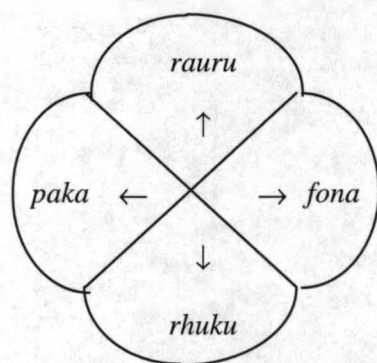


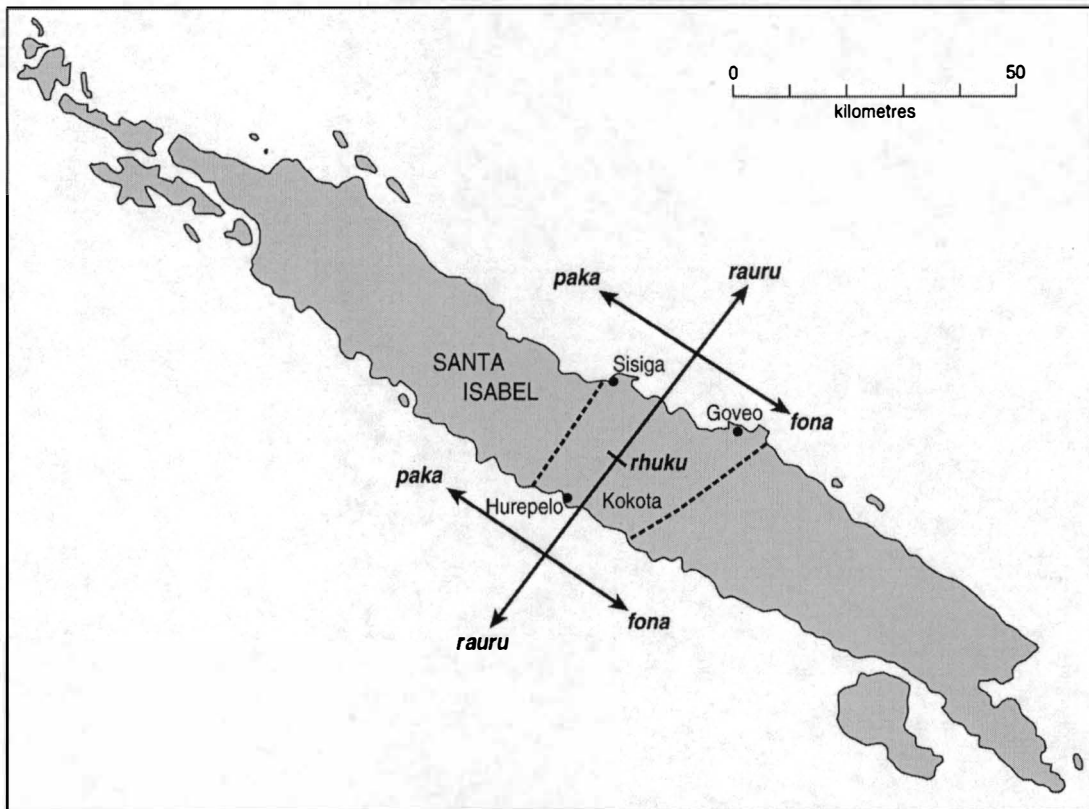
Figure 12: Kokota absolute directional schema, drawn in Goveo village

This Goveo speaker's own schema demonstrates that these directional terms refer to quadrants not vectors, as in Longgu. However unlike Longgu seaward is unbounded: the direction indicated by *rauru* crosses the coast and continues out to sea indefinitely. On the other hand *rhuku* is apparently bounded, ending somewhere in the middle of the island.

However the schema in Figure 12 is only applicable in Goveo and Sisiga, not in Hurepelo on the opposite coast. The spatial system can not be identical on both sides of Santa Isabel. If the landward–seaward axis and the east–west axis are motivated by separate phenomena and each maintains its internal integrity, then in Hurepelo *fona* must continue to mean 'east' and *rauru* 'seaward'. For this to be possible the relationship between the two axes must be different on each side of the island. This is in fact the situation—the system operating in Hurepelo is the mirror image of that operating in Goveo (see Map 6). In Goveo when you face *rauru*, *fona* is on your right. In Hurepelo it is on your left. Not surprisingly, speakers from Goveo find directions confusing when they are in Hurepelo and vice versa.

This demonstrates two facts about absolute spatial reference. Firstly, where two axes are each motivated by separate perceptually salient phenomena, and consequently are to a degree conceptually independent, they will interact differently in locations where the interaction of the motivating phenomena differs. Secondly, it demonstrates that this can occur within a single language, where what is fundamentally a single conceptual system can be manifest differently in different parts of the language locus. This is not dialect difference, but the effect of environmental constraints on an environmentally sensitive system.

²⁷ Spatial reference in Kokota is described by Palmer (1999, 2001, in press), however a number of relevant representative examples are presented in Appendix 1.

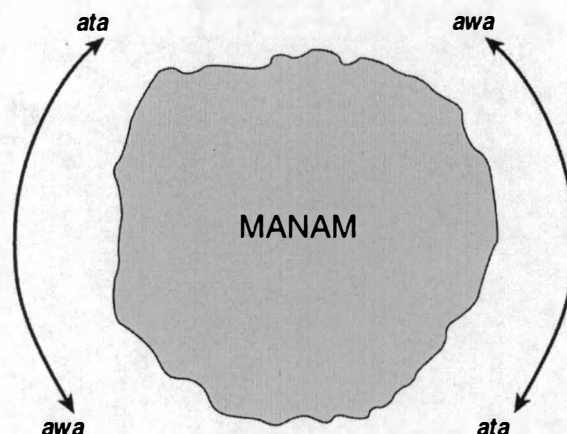


Map 6: Kokota absolute reference mapped

5.2 Landward–seaward on a round island

A quite different manifestation of the landward–seaward axis occurs when a system with such an axis is found in a language spoken on a round island. If an apparent landward–seaward axis corresponds to a single bearing in our cardinal sense, say southwest–northeast like in Longgu, Nemi and Kokota, then at almost all points around the coast the direction is not going to correspond to a line orthogonal to the boundary between land and sea. By definition such an axis could not in fact be a landward–seaward axis. On the other hand, if the integrity of the landward–seaward axis is maintained, then ‘seaward’ must point in every cardinal direction simultaneously, depending on where the relatum is located on the coast. If the origo is the westernmost point on the island, seaward will point due west. If it is the southernmost point, seaward will point due south, and so on, and landward will always be the opposite of that.

A system like this is found in Manam (Lichtenberk 1983:569–597). The boundary between land and sea is the sole motivating phenomenon in the Manam system of absolute spatial reference, and Manam is spoken on a round island. Consequently Manam has a landward–seaward axis which radiates out from the centre of the island, apparently in every direction, crossing a regularised but curved coastline orthogonally at every point. That being so, it is impossible to represent this axis on a map of the island in the way that it is possible to do so for Longgu, Nemi and Kokota.



Map 7: The Manam *ata-awa* axis mapped (after Lichtenberk 1983)

The axis which crosses the landward–seaward axis, crosses it at right angles at every point on the regularised coast. Since the coast is curved, so too is the axis. One direction on this curved axis follows the coast in a clockwise direction, the other anticlockwise (see Map 7). A traveller moving clockwise along this axis could continue around the island until they reached their point of origin and beyond, without changing direction. This may seem paradoxical from a cardinal perspective, but the traveller would at all times be moving right as facing the sea. The following are the Manam terms, with the definitions given by Lichtenberk (1983:572).

- (13) *ilau* 'seaward'
auta 'inland' [i.e. landward]
ata 'to one's right when one is facing the sea, to one's left when one is facing inland'
awa 'to one's left when one is facing the sea, to one's right when one is facing inland'

These are all unique directionals. In addition to these terms, a corresponding set of motion verbs exists indicating motion in each of these directions (1983:576):²⁸

- (14) *oti* 'move in *ilau* direction'
oro 'move in *auta* direction'
ra ʔe 'move in *ata* direction'
bala 'move in *awa* direction'

It might not seem immediately apparent how this system could be absolute, since both axes appear from a European perspective to be able to run in any direction. However, that is only true if we think of 'direction' purely in the culture-specific terms of the cardinal point system. In fact the Manam landward–seaward axis runs in exactly the same direction at all times

²⁸ A set of verbal directional suffixes also occurs which are formally identical to the motion verbs, with the exception of *-ria* corresponding to *awa/bala*.

within the Manam absolute spatial conceptual structure, to precisely the same extent that North always runs in the same direction in the European conceptual system. Within the Manam conceptual structure, every directional operates uniformly and entirely consistently, and only appears variable when viewed within a conceptual framework other than the one in which it operates. Indeed, to a Manam speaker North must appear to point in every possible direction—sometimes corresponding to *ilau*, sometimes to *ata* and so on. The inappropriateness of the English cardinal system as a framework for understanding the Manam system (and vice versa) is reflected in the fact that Lichtenberk has not attempted to gloss the directions in those terms.

It is clear, then, that conceptually there is no variability in the system. It is equally clear that this system is absolute within the frames of reference definitions given in §2.1. Using these directional terms, a referent is located by projecting a search domain off the relatum in a direction determined arbitrarily and by convention among speakers of the language. The system is not intrinsic—there is no requirement that the relatum have an agreed asymmetry, and when a relatum is asymmetrical it does not matter how it is oriented. Nor is the system relative—no viewpoint is explicit or implicit in references within the system, and the presence of a viewer has no impact on the process of identifying the search domain. It is the binary and arbitrary nature of the system that makes it absolute.

5.3 Landward–seaward on an atoll

Yet another manifestation of the landward–seaward axis is found in Tokelauan, spoken on an atoll (anon 1986; Hoëm 1993). Most atolls have the topographically unusual feature of having the land in a ring or fragments of a ring around a central lagoon. Tokelauan has a landward–seaward axis encoded by local nouns (shown in example (15)) and directional particles (in (16)):²⁹

- (15) *gātai* ‘seaward’³⁰
gāuta ‘landward’

- (16) *ifo* ‘seaward’
ake ‘landward’³¹

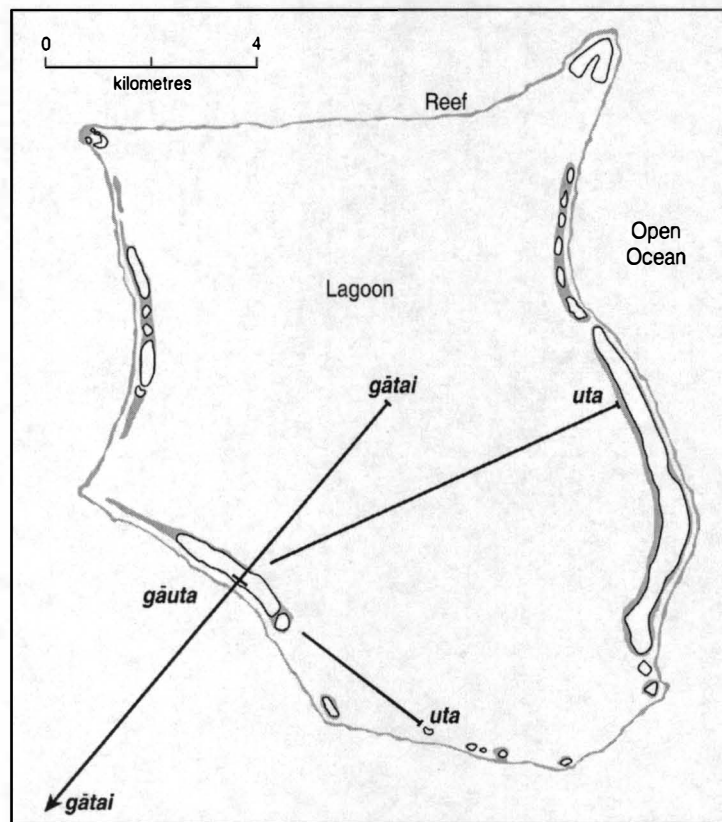
However, because the land forms a narrow strip along the fringe reef, each term refers to what superficially appear to be opposing directions, depending on whether the central lagoon or the open ocean outside the atoll is at issue. The ‘landward’ terms refer to a direction toward land, either towards the atoll as a whole from the sea outside the atoll, or towards land

²⁹ Hoëm (1993) gives no indication as to whether terminology exists in Tokelauan for travelling along the shore of the island either on foot or by canoe, or whether terminology exists for travel around the atoll parallel to the reef, either inside or outside, comparable to the clockwise/anticlockwise cross axis in Manam.

³⁰ Note that Tokelauan orthographic *g* = /ŋ/.

³¹ In many Oceanic languages a correspondence exists between landward–seaward and the vertical domain, with an association between landward and vertical up, and seaward and vertical down. (See, for example Nemi (fn. 21).) This association is maintained even where no actual ascent or descent is involved, such as when travelling across water towards or away from land. In Tokelauan the directional particles have this association, with *ake* also lexifying up and *ifo* down on the vertical axis. This correspondence is particularly striking for Tokelauan since none of the islands rise more than five feet above sea level.

from the lagoon, and to a direction further inland from on land, including going along the island from the village (the controlled environment) into the bush (the wild environment). The 'seaward' terms refer to a direction away from the atoll as a whole at sea, or away from the shore towards the centre of the lagoon, as well as towards the shore from on land.³² (See Map 8.) In this system, each term refers to both superficially opposing directions on any given line running orthogonally to the coast. However, this is an illusory paradox imposed by the cardinal point system on what is an internally consistent and coherent system: *gātai* refers to a single conceptual direction, seaward. It is a consequence of the specific nature of the topography that in Tokelauan seaward represents both away from and towards the centre of the atoll when the atoll is treated as a unitary whole.



Map 8: The Tokelauan landward–seaward axis mapped for Nukunonu
(modified from Hoëm 1993)

Nonetheless, this manifestation of the landward–seaward axis appears to give the system a kind of perimeter focus, where the directional focus of the atoll is the boundary between the lagoon and the open ocean. Within that, *gātai* and *ifo* indicate a direction away from this

³² The form *gātai* is in fact a reflex of Proto Oceanic **tasik* 'sea', with a frozen prefix *gā-*. When in the village its lagoon side may be referred to as *gātai* 'seaward' or by the open class noun *namo* 'lagoon'. The open ocean side of the village may be referred to as *gāuta*, however it is more typically referred to as *i tua*, a locative prepositional phrase meaning 'at the back'. Because the focus and orientation of the villages is towards the lagoon and away from the ocean side of the island, 'it is not common that people refer to the open ocean side of the village as *gātai*, only *i tua*' (1993:141). The interaction of absolute and intrinsic elements represented by this use of *i tua* warrants further investigation, but is beyond the scope of the present work.

perimeter focal point, and *gāuta* and *ake* indicate a direction towards it. The extent to which this apparent perimeter focus is psychologically real is unknown. It would be instructive to examine the way these terms are used in relation to points on the fringe reef where there is no land. Interestingly, a further closed class locative/directional term, *uta*, refers to a direction towards fringe islands, apparently other than the main inhabited island, regardless of whether this involves crossing the lagoon or travelling around the perimeter, as Map 8 shows. Details of the operation of this term within the overall system of spatial reference are not clear.³³

There can be little doubt that the *gātai-gāuta* axis is connected to directions towards sea and land in a psychologically real way. It is clear from Hoëm's remarks that speakers associate *gātai* with sea and *gāuta* with land. Moreover, the directionals formally consist of the form *gā-* with the locative *uta* 'islets' and the common noun *tai* 'sea', giving the terms almost the semantic transparency of the English *seaward* and *landward*.³⁴

Further information is needed to fully understand the way absolute systems operate on atolls. Unfortunately at this stage no other studies on spatial reference in atoll-based languages have been published.

6 The significance of comparative research

Over the last decade and a half research into spatial reference has increasingly turned away from the familiar European languages, and towards so-called 'exotic' languages. Due to the previous absence of significant information about spatial reference in non-Indo-European languages, this initial phase of cross-linguistic research has by necessity taken a macro perspective: research has been carried out into languages which are as diverse as possible, genetically, typologically, and geographically, in an attempt to broadly identify some of the diversity that exists in linguistic spatial systems. There can be no doubt that this aim has been achieved. Many traditional assumptions about the nature of spatial cognition have been proven false as a consequence. This initial phase has set the scene for a new phase of research, at least as far as absolute reference is concerned. In this new phase a more fine-grained approach to cross-linguistic research is needed, in the form of comparisons of spatial systems in languages targeted within two related paradigms of comparison: languages which are closely related but spoken in diverse topographic and geographic environments; and the corollary, languages which are unrelated but spoken in similar topographic and geographic environments.

³³ In fact, Hoëm claims *gāuta* 'landward' is derived 'from *ga-* and *uta* meaning the islets on the far side of the lagoon' (1983:141). She goes on to say that 'The islets on the far side of the lagoon where the coconut plantations are, are called *uta*'. These remarks suggest that *uta* may in fact simply be an ordinary noun meaning 'land', or 'islet' or some such, while of the two only *gāuta* is actually a grammatical locative. Nevertheless, this requires further investigation.

³⁴ The frozen prefix *gā-* appears to have no synchronic independent semantics, while the English *-ward* does occur elsewhere (*toward*, *northward* etc.). However the semantic independence of *uta* and *tai* must give the terms psychologically real topographic associations.

6.1 The comparison of related languages spoken in differing environments

The languages discussed so far in this chapter all have systems of spatial reference which make use of a landward–seaward axis. However, this is not the extent of the significance of a comparison of these systems. In addition these languages are all genetically related. A comparison of such languages allows conclusions to be drawn about the way in which particular elements of a system have been modified or adapted to fit new topographic and geographic environments encountered by ancestral language communities. The common ancestor of these languages, Proto Oceanic, can be assumed to have had a system of spatial reference. As Oceanic speech communities spread out into the Pacific they settled in new locations which were not identical to their former homes. As with the bi-coastal nature of Kokota, this change of locus would have necessitated changes to the system of spatial reference. As the languages described in §5 show, a single component, in this case a landward–seaward axis, will be manifested differently on islands of different shapes. A comparison of the spatial systems of related languages reveals the nature of responses to environmental phenomena. This diachronic perspective potentially provides a window onto the way humans will respond conceptually to specific environmental features.

Pre-existing system elements may be manifested differently, but remain fundamentally conceptually the same, as the landward–seaward axes in the languages in §5 show. While they are manifested differently, each remains a landward–seaward axis. Re-analyses and adaptations of system elements may be more dramatic, however, when the motivating phenomenon of a system element is absent from a new environment. This is exemplified by a comparison of certain western Austronesian languages. In Balinese, for example, a landward–seaward axis is lexified by *-lod* ‘seaward’ and *-aja* ‘landward’ (Adelaar 1997).³⁵ These are cognate with terms in a watercourse-based system in Aralle-Tabulahan, spoken in the interior of Sulawesi, some distance from the coast (McKenzie 1997). In Aralle-Tabulahan two absolute systems operate in conjunction, one of which is a watercourse-based system comprising an upstream–downstream axis, with an undifferentiated traverse (the other is elevational, i.e. based on the vertical domain and used in very mountainous regions). Watercourse-based systems of this kind are common in the interiors of large islands in the region, including Borneo, Sulawesi, and New Guinea.³⁶ In Aralle-Tabulahan, this axis is lexified by the locatives *yaling* ‘upstream’ and *lau* ‘downstream’, cognate with the Balinese landward and seaward terms respectively. Both sets of terms are reflexes of the reconstructed Proto Austronesian **Daya*, and **laSud*, glossed by Adelaar (1997:53) as ‘towards the interior’ and ‘towards the sea’ respectively. Blust (1997:39) reconstructs for Proto Malayo-Polynesian **daya* and **lahud*, glossed as ‘upriver, towards the interior’ and ‘downriver, towards the sea’. Whether these reconstructed forms lexified a watercourse-based axis or a landward–seaward axis (or perhaps both), their reflexes in daughter languages lexify axes of both types. In coastal languages, where the boundary between land and sea is salient, this has been interpreted as a landward–seaward axis. In landlocked languages, where that boundary is not salient, but large rivers exist, the axis has been interpreted as an upriver–downriver axis. Which came first is not important for the present purposes. The crucial point is that what was

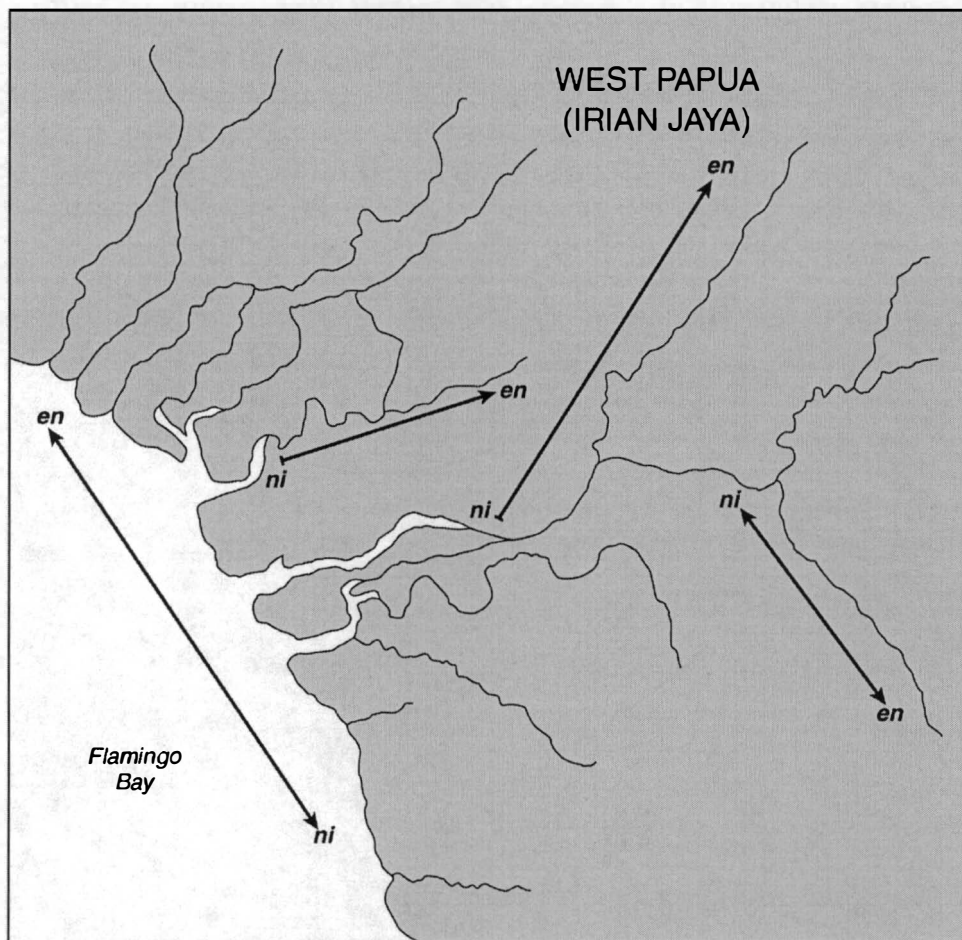
³⁵ Adelaar discusses these terms in relation to cardinal north and south, however he notes that ‘the directional terms [are] dependent on the geography of the place where they are used. The points of reference of the system are not the absolute north and south, but the direction of the sea and its correlate, the interior’. He goes on to present evidence of these terms corresponding to cardinal east and west at the eastern end of Bali.

³⁶ Adelaar (1997:68–71) discusses the situation in Borneo.

originally a single system has been re-analysed to cope with diverse topographic and geographic environments.

A differing re-analysis is evident in the non-Austronesian language Asmat, spoken over a large area of southern Irian Jaya both on the coast and up to 120 kilometres from the sea (Voorhoeve 1965; Drabbe 1959; Palmer n.d.). Almost all the Asmat live by the region's many rivers, and the language's system of spatial reference makes use of an upriver–downriver axis (lexified by *en* and *ni* respectively), and an upstream–downstream axis (lexified by *tep* and *tak*). The two axes differ functionally only in the size of the watercourse to which they are applicable. In addition an undifferentiated traverse refers to crossing watercourses. There is also an axis orthogonal to the watercourse-based axes which appears to correspond conceptually to a landward–seaward axis. This codes a direction from the centre of a watercourse towards the bank, onto land, and away from the watercourse, and the reverse direction towards a watercourse.

In the coastal region this system can obviously not operate as just described. In this region the directional system has an axis which runs roughly cardinal northwest to southeast corresponding to the line of coast. This system is lexified with the terms lexifying upriver and downriver in the interior. The landward–seaward axis applying to watercourses also appears to apply here.



Map 9: The Asmat language locus, with the *en-ni* axis mapped

This differs markedly from the Austronesian correspondence between landward – seaward and upriver – downriver. However, the directions on the Asmat coastal axis are instructive: upriver corresponds to northwest along the coast and downriver to southeast. In Austronesian languages with a path-of-the-sun based axis and an association between this axis and the vertical axis, it is east which is treated as corresponding to up, and west to down, apparently due to the association between the rising and setting of the sun. This association is clearly not present in Asmat, as the opposite correspondence exists. It is possible to hypothesise that the upriver–downriver correspondence is based on sea currents. The prevailing currents along the south coast of Irian Jaya flow in a south-easterly direction. The direction of the flow thus corresponds to downriver, and the direction against the flow to upriver. If this association has psychological reality, then it may suggest that the inland, watercourse-based system came first, and the coastal system is an adaptation of it. This would contrast with the Austronesian case, where it appears likely that the upriver–downriver interpretation exemplified by Aralle-Tabulahan developed from a landward–seaward axis. These hypotheses correlate to non-linguistic information about population origins, with the Austronesians being a maritime people (and note that the distant ancestors of the Aralle-Tabulahan came to Sulawesi by sea), while the Asmat have no significant maritime tradition. However, comparisons of the Asmat and Austronesian systems aside, Asmat itself presents an example of a fundamentally unitary linguistic system of spatial reference with two diverse manifestations associated with two diverse topographic environments: a river dominated hinterland and a coastal region. As such, it provides evidence on which hypotheses may be formed about the way absolute spatial systems are re-analysed to cope with diverse topographic and geographic environments.³⁷

6.2 The comparison of unrelated languages spoken in similar environments

The corollary to diversity in the spatial reference systems of closely related languages (or even within individual languages, as with Kokota and Asmat) is similarity in the systems of absolute reference used by genetically unrelated and geographically separate languages in similar topographic environments.

An example of such similarity is found in a comparison of Tzeltal and Yupno, a Papuan language spoken in a rugged mountainous region of New Guinea. Tzeltal, as discussed above, is spoken in a mountainous region with a regularisable overall fall of land. The system of spatial reference in the language operates on the basis of an uphill–downhill axis and an undifferentiated traverse. The system of spatial reference in Yupno is described by Wassmann (1997) (although his paper is concerned primarily with route knowledge):

The Yupno valley runs approximately from the west (from the source of the Yupno River) to the east (to the mouth of the Yupno). The traditional idea was that the ‘world’ consists of an oval which is enclosed by mountains and with the river in the middle of it. The oval itself is a plane which inclines from ‘above’ (west) to ‘below’ (east). This plane is mentally divided into four regions or edges: the upper quarter is *osode* (uphill), the lower *omode* (downhill), the other quarters are *ngwimede* (to the side down, i.e. down to the river) and *ngwiside* (to the side up, i.e. up away from the river). ‘Uphill’ is always

³⁷ The modification of linguistic systems of spatial reference is not limited to re-analyses of elements of absolute systems. Pederson (1993) presents evidence that while rural Tamil speakers employ an absolute frame of reference almost exclusively, urban Tamil speakers (at least in one community) operate primarily in the intrinsic reference.

the mountain region with the source of the Yupno in its middle, 'downhill' is always the coastal area where the mouth of the river is. (Wassmann 1997:155–156)

As with Tzeltal, a regularisable overall fall of land is associated with an uphill–downhill axis (in this case clearly quadrant-based). One of these languages is Mayan, spoken in Mexico, the other Papuan, spoken in New Guinea. There can be no question of genetic or areal influence. However, both are spoken in similar physical environments, and both have similar systems of spatial reference.

Similarly, comparable elevational systems are found in unrelated languages in unrelated locations. As mentioned above, Aralle-Tabulahan has an elevational system operating in conjunction with its upriver–downriver system. This elevational system comprises an upward–downward axis, and an undifferentiated traverse which, because of the vertical nature of the primary axis, refers to locations on the same level (i.e. altitude). Elevational systems are only found in languages spoken in mountainous regions where there is implicitly no perceived regularisable overall fall of land. Austronesian languages tend not to be spoken in mountainous highland regions, so Aralle-Tabulahan is unusual among Austronesian languages in having such a system. However, numerous non-Austronesian languages in the mountainous interior of New Guinea have elevational systems (see Foley 1986:148–152; Heeschen 1982). Absolute spatial reference in Yale (Heeschen 1997) operates only with an elevational system involving an upward–downward axis and an undifferentiated traverse, glossed as 'across' (from the examples apparently meaning 'on the same level'). In Yale the additional element of distance from origo is factored into the cross axis. Nimboran (Steinhauer 1997; Voorhoeve 1997) has a very similar system (analysed by Steinhauer on the basis of features such as + high and + low, the -high -low category seemingly representing a same-level undifferentiated traverse). Nimboran has the added component of visibility. This may not be as deictic as it appears at first glance, instead perhaps representing visibility from the origo (whether or not that is the speaker).

The presence of similar elevational systems in Papuan languages and in Aralle-Tabulahan is not the extent of the genetic and regional distribution of such systems. Such systems are also found in some dialects of German spoken in the Alps. The standard system of absolute spatial reference in German, like English, is the cardinal system, based on the path of the sun. However, in various Alpenmundarten (including that of Kanton Wallis in Switzerland (Krier 1986), and the Florutz dialect of German-speaking Italian Tyrol (Rowley 1980)), absolute spatial reference is strikingly similar to the system found in Aralle-Tabulahan. Florutz German, for example, has an elevational system involving an upward–downward axis, with an undifferentiated traverse referring to locations on the same level; and an upriver–downriver axis. In addition, an undifferentiated traverse exists which appears to operate in conjunction with both the elevational and watercourse axes. This axis refers to locations on the same level as the origo, but involve crossing a watercourse, valley or mountain. In conjunction with the upriver–downriver axis it indicates locations on the opposite side of a watercourse. With the elevational system it indicates locations on the opposite side of a valley, or on the opposite side of a mountain. The elevational system is therefore truly three dimensional: an effectively vertical axis is crossed by an orthogonal horizontal axis delineated by the line of ground on the side of the mountain, while orthogonal to both, a horizontal axis projects in one direction out from the hillside to the opposite side of the valley, and in the other direction through the mountain to the other side. This third axis effectively refers to same-level locations which must be reached by going down then up or up then down, in contrast with the 'level' axis,

which refers to locations which can be reached by maintaining the same level.³⁸ The specifics of this cross axis aside, these Alpenmundarten share with Aralle-Tabulahan an elevational system operating in conjunction with an upriver-downriver axis. Again these striking similarities can not be the result of genetic or areal influence.

A comparison of the systems of absolute spatial reference in genetically unrelated languages in similar topographic and geographic environments may be interpreted as providing evidence of systematic linguistic responses to specific kinds of environments. A comparison of related languages in differing environments may provide evidence of the effect these responses have on existing systems transferred to new loci. The striking nature of the very preliminary comparative findings described above, drawn from secondary sources, point to the potential value of more rigorous fine-grained comparisons of selected linguistic systems.

7 The significance of remote Oceania for absolute spatial research

The way perceptually accessed phenomena are grammaticalised to form elements of linguistic spatial reference has the potential to provide a window onto spatial cognition, as does the way linguistic systems are restructured or modified to adapt to the topographic features of a new language locus. However, in most instances processes of grammaticalisation and modification are not insulated from other factors, such as external cultural influence. This point is usefully illustrated by certain languages of Halmahera (eastern Indonesia).

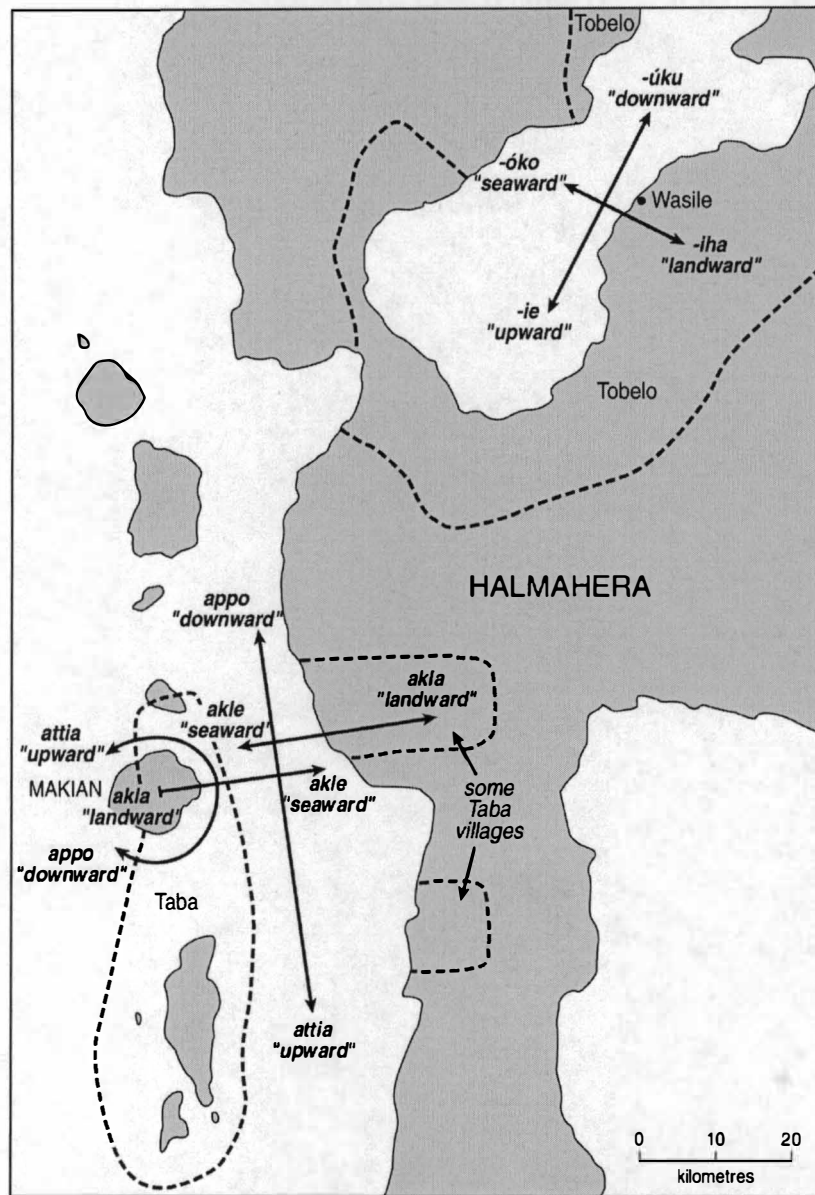
In Tobelo and Galela (Taylor 1984), two closely related non-Austronesian Halmahera languages, two axes operate in the non-vertical dimension. One is a landward-seaward axis, the other an axis that runs parallel to the line of coast in the various Tobelo- and Galela-speaking areas of mainland Halmahera, a line that runs roughly north-south in cardinal terms.³⁹ (See Map 10.) The coastal axis is colexified in both languages with directions in the vertical dimension, with 'south' corresponding to up and 'north' corresponding to down.⁴⁰

In the dialect of the unrelated Austronesian language North Moluccan Malay (NMM) spoken in Wasile, in the middle of a Tobelo-speaking region, the system of absolute reference is virtually identical, although it is independently lexified (Taylor 1983). In a sense this is not surprising, since NMM is a Halmahera lingua franca, and most speakers of NMM in Wasile are bilingual with Tobelo. Indeed, Taylor claims that by colexifying the coastal and vertical axes 'NMM preserves local language usage' (1983:18), and observes that the overall system is the 'primary influence of local languages on NMM deixis' (1983:17). Note that it is the Papuan language which is interpreted as influencing the Austronesian language. Yet this shared system has the basic elements found throughout the Austronesian-speaking world.

³⁸ Axes referring to locations which are on the same level but require a change in level to reach apparently exist in some New Guinea highlands languages (Rumsey pers. comm.), but I have seen no reference to this in print.

³⁹ The exact nature of the interaction between these two axes is not entirely clear.

⁴⁰ Taylor implicitly treats these vertical senses as basic, but provides no evidence justifying this assumption. (See also the colexification of axes in Nemi described in fn. 21.)



Map 10: Makian Taba reference mapped
(modified from Bowden 1997)

In the Austronesian language Taba (South Halmahera – West New Guinea subgroup, Bowden 1997), spoken on the opposite side of Halmahera, a partially similar looking system exists. In the variety of Taba spoken on the west coast of mainland Halmahera, the system of absolute spatial reference resembles closely that found in Tobelo and North Moluccan Malay. A landward–seaward axis exists, crossed orthogonally by an axis which is colexified with the vertical axis, the direction corresponding to cardinal south colexified with up, the direction corresponding to cardinal north colexified with down. As Bowden (1997:265) observes, the languages of the Halmahera region, ‘whether Papuan or Austronesian, have roughly comparable systems, distinguishing at least the same five basic categories’, his five categories being up, down, landward, seaward, and ‘there’ (the latter among other things an undifferentiated traverse present in some scales).

Further similarities between the Papuan and Austronesian languages exist. In the variety of Taba spoken on Makian, a small island off the coast of mainland Halmahera, three scales of reference exist: a small scale (within a house or neighbourhood), a medium range scale used on and around Makian island, and a larger 'wider world' scale. All three scales involve an identically lexified landward–seaward axis. The difference between the scales lies in the axis crossing the landward–seaward axis. In the smallest scale the cross axis is an undifferentiated traverse lexified by *akno*, glossed by Bowden as 'there'. In the medium and large scales the cross axis is colexified with the vertical axis. The superficially apparent difference lies in the apparent cardinal directions indicated by these terms. In the large scale *attia* appears to correspond to south and *appo* to north. In the medium scale on the Taba-speaking east coast of Makian these terms appear reversed, with *attia* corresponding to north and *appo* south. Indeed, when at sea between Makian and the mainland it would be possible to use either for either direction. Crucially, it would also be possible to use either *akla* 'seaward' or *akle* 'landward' for either direction on a line running roughly cardinal east–west between Makian and the mainland. Moreover, the *attia*–*appo* axis in the medium scale curves around Makian island like the cross axis in Manam.

Bowden gives a primarily cultural explanation for this paradox. However, the explanation appears to be in fact more systematic. It appears from the data that Makian Taba has two overlapping and in some locations competing (not complementary) Manam-like systems. In one (appropriate to the medium scale), the system is centred on Makian island. Crossing the landward–seaward axis is a coastal axis for which *attia* lexifies a direction corresponding to left when facing seaward, and *appo* to right when facing seaward. The second Manam-like system (appropriate to the large scale) also has a landward–seaward axis, but centred on mainland Halmahera. Again a cross axis is lexified with *attia* for a direction corresponding to left when facing seaward, and *appo* for right when facing seaward. The medium- and large-scale systems are in fact internally identical. The difference lies only in whether Makian or mainland Halmahera is the system's centre. A speaker travelling north when at sea between the two will be travelling *attia* if they are thinking of themselves in relation to Makian island, but *appo* if they are thinking of themselves in relation to the mainland. Evidence supporting this analysis comes from the fact that once the southernmost tip of Halmahera is reached, large-scale *attia* follows the curve of the coast, and ultimately points towards cardinal northeast.

The system as it is manifest centred on mainland Halmahera bears a strong resemblance to the systems described for Tobelo and for North Moluccan Malay. All have uniquely lexified landward–seaward axes, and all have a coastal axis colexified with the vertical axis, with up corresponding to left as you face the sea, and down corresponding to right as you face the sea in the Makian-speaking region of mainland Halmahera, and in Tobelo- and NMM-speaking Wasile. Bowden (1997:265) comments that the similarities between this 'worldwide scale' and the systems found in Tobelo and NMM are not unusual, 'so long as we accept that Taba speakers have borrowed the notion of the up–down axis from the languages that they have been in contact with'. As with Taylor, Bowden assumes the system in the Austronesian language is borrowed from non-Austronesian sources. Again, however, elements common throughout the Austronesian-speaking world are involved. This is not to say their assumptions are wrong. It does however draw attention to a significant problem in using

systematic re-analyses in new topographical environments as evidence on the relationship between perceptual input and linguistic absolute reference.⁴¹

Systems of linguistic absolute reference, particularly those relating to topographic phenomena that are manifest as diversely as is the boundary between land and sea, they must modify or be restructured to cope with new environments. These processes may provide a window on which phenomena in the physical world are perceptually salient, and how they are interpreted as a context for spatial relationships. But observations on systemic variations between related languages may not reflect only a cognitive response to the new environment. They may instead reflect borrowings. The similarities between the systems of absolute spatial reference in the Austronesian and non-Austronesian languages of Halmahera may result from the ancestors of those Austronesian languages borrowing the system present in pre-existing non-Austronesian languages. (Although this in itself would be interesting as it would involve non-Austronesian responding to this island environment by developing a system that resembles the Austronesian island-based systems.) Alternatively, the resemblance may result from non-Austronesian languages borrowing the basic system brought by Austronesian speakers. Equally, the non-Austronesian and Austronesian systems may resemble each other because that is the system that humans will come up with in response to this specific geographical environment. It would be difficult to determine with certainty which of these possibilities reflects what has happened.

In this respect the languages of remote Oceania represent an excellent, and perhaps unique, laboratory to investigate human spatial cognition. The Oceanic languages spoken in Melanesia south and east of the Solomon Islands, in Polynesia, and in most of Micronesia, comprise a large number of separate languages, each with their own specific system of absolute spatial reference. The genetic relationships between these languages are relatively well understood, so difference between the systems of closely related languages may be compared, and examined in the light of diverse geographic and topographic environments (though sadly few if any fall of land or elevational systems are likely to be found). Hypotheses exist about successive homelands, and the geography and topography of intervening stages may also be considered. And crucially, the absence of previous human populations means that this can be done with the knowledge that whatever restructuring or

⁴¹ Likewise, there are similarities between the neighbouring Bougainville languages Banoni (Oceanic) and Buin (non-Austronesian). Banoni (Lincoln 1976:208) has one axis with directions described as “upstream” or “northeast” or “easterly” and “downstream” or “southwest” or “westerly.” Orthogonal to this is a cross axis with directions described as being ‘*rina* “right of downstream” or “northwest” or “northerly”’, and ‘*booya* “southeast” or “southerly” (left of downstream)’. Buin (Griffin 1970) is described as having cardinal direction terms, although no justification is given for assuming that the terms refer to cardinal directions. The terms given for ‘east’ and ‘west’ appear to be cognate with the Banoni left/right of downstream terms: Buin ‘west’ is *ree* and *rito* and ‘east’ *poo* and *pooko*. The difference in meanings assigned to these terms in the two languages corresponds exactly with differences in the direction of the coastline in the regions in which the two are spoken. Although they are neighbours, Banoni is spoken on the southwest coast of the island, while Buin is spoken on the southern end of the island. In Banoni, as Lincoln’s insight suggests, *rina* is right when facing the sea and *booya* is left when facing the sea. The same is true of Buin *ree/rito* and *poo/pooko*. Further evidence of the landward–seaward/traverse nature of the Buin system may be found in the fact that nominalisation of the terms for ‘east’ and ‘west’ exist referring to ‘easterner’ and ‘westerner’, but no corresponding nominalisations exist with the ‘north’–‘south’ axis. Instead terms meaning ‘highlander’ and ‘coastal person’ occur (Griffin 1970:21). What is significant for the present purposes is that these two unrelated languages have cognate terms for the same axis, clearly demonstrating at least lexical, if not systemic, borrowing by one.

adaptation is apparent is the result of human cognitive responses to new environments, and not the result of cultural influence.

8 Implications for an understanding of cognition

What cognitive implications do the variety of linguistic systems of absolute spatial reference, and their relationship with phenomena accessed through perceptual modalities, have? It is apparent from the evidence surveyed above that a correlation exists between central components of such systems and features of the physical world. Moreover, it is apparent that the perceptually accessed phenomena which correspond to components of the linguistic system are ones which in some way dominate the physical environment, certainly from the perspective of terrestrial animals such as humans. Elevational linguistic systems correspond to regions with steep and irregular mountainous terrain; fall of land systems correspond to mountainous regions with a perceivable overall change in altitude; upriver–downriver systems correspond to large inland regions dominated by one or more watercourses; landward–seaward systems correspond to island environments, and so on.

What is the nature of the correspondence between linguistic systems and these physical world phenomena? It is obvious, but non-trivial, that the linguistic systems do not precede the physical world phenomena. The ancestors of Manam speakers did not travel the world until they encountered a round island on which their system of spatial reference could work; the speakers of the Alpenmundarten did not roam Europe until they settled on mountains in which their elevation reference would make sense. The linguistic absolute systems present in these and other languages attend to certain physical world phenomena because for humans those phenomena dominate the environment of the language locus.

This is supported by the fact that systems correlating to features of the physical world are found in languages whose ancestors can be presumed to have had quite different systems. Aralle-Tabulahan, in its hinterland locus, has a system relating to watercourse and mountain, not to the boundary between land and sea as its Austronesian ancestors. The Alpenmundarten have systems correlating to mountains, not to the path of the sun as their steppe-located ancestor.⁴² The fact that linguistic systems, regardless of their original nature, modify to correspond to features of the physical world in new loci, strongly suggests that it is the features of the physical world which motivate the linguistic systems.

This raises questions about the relationship between perceptual and linguistic modalities. Whatever the nature of the interface between these modalities may be, and whatever conceptual structure or processes may intervene, the evidence of absolute spatial reference suggests very strongly that perceptual input can determine linguistic structure, and that perceptually accessed phenomena may be grammaticalised as components of a linguistic system.

What implications does this have for spatial conceptualisation? It is apparent that systems of linguistic spatial reference correlate with strategies used in non-linguistic behaviour. Experimental evidence from Tzeltal (Brown & Levinson 1993; Levinson 1996) and Guugu Yimidhirr (Haviland 1993; Levinson 1992a), and comparisons between the behaviour of speakers of these languages and Dutch speakers, indicate that the choice of frame of reference used in linguistic systems of spatial reference corresponds to strategies adopted in other, non-

⁴² See also the modified use of cardinal terminology in an island environment in Icelandic (Haugen 1969).

linguistic, behaviour such as orientation, memory recall, memory recognition, gesture, and inference (see Levinson 1996 for a discussion of this cross-modal evidence). This and further similar evidence demonstrates that both spatial language and spatial coding manifest in other modalities have access to a shared spatial conceptual representation, or at least that they have access to representations which are compatible and may interact by some means. I do not propose here to subscribe to any particular theory of conceptual structure or cross modal interaction. However, whatever theory one might have of the mechanics of cognition, it is apparent that linguistic spatial reference is a manifestation or component of broader cross modal conceptualisation.

The relationship between absolute linguistic systems of spatial reference and perceptually accessed phenomena suggests that perceptual input can determine features of a linguistic system. This taken with the evidence of cross modal correlation in spatial behaviour suggests that a relationship exists between perceptual input and conceptualisation. While the notion that linguistic structure provides input into conceptualisation is well known, it would surely be implausible to hypothesise that perceptual input reaches other non-linguistic modalities via language. If linguistic representations of space correlate to a wider cognitive representation or representations (and they appear to), and perceptual modalities provide input into these linguistic representations (and they appear to), then it must be concluded that perceptual modalities provide input into cross modal spatial conceptualisation. As it is implausible to propose that language intervenes in this input, it can only be concluded that perceptual modalities provide input directly into spatial conceptualisation. The role of perceptually salient phenomena in motivating linguistic systems of spatial reference effectively means that perception of these phenomena plays a part in constructing concepts of space.

This in turn has commensurate implications for notions of linguistic determinism. Levinson, noting that Guugu Yimidhirr speakers 'can be shown when not engaged in speaking the language to think in a way that is concordant with it', concludes, surely correctly, that this 'represents a serious challenge to the view that a particular language at most requires a special way of thinking just while speaking' (1992a:35). Given the further supporting evidence that has come to light since those remarks, it now seems beyond doubt that linguistic spatial reference does not merely reflect thinking for speaking. However, Levinson goes beyond this. Faced with evidence of cross modal correlations in spatial behaviour, Levinson concludes that this evidence demonstrates a Whorfian relationship between language and thought. Considering the Tzeltal and Dutch experimental data, for example, he is 'led to the conclusion that the frame of reference dominant in a language, whether relative or absolute, comes to bias the choice of frame of reference in various kinds of non-linguistic conceptual representations' (1996:125). This seems something of a leap. The fact that a relationship exists between linguistic representations of space and representations employed by other modalities is taken to demonstrate that language is determining non-linguistic conceptualisation. However, the existence of this relationship does not, in itself, provide evidence of the direction of influence. Needless to say Levinson is aware of and addresses this problem:

It may be objected that the whole system of absolute orientation is much more than a linguistic phenomenon, and therefore cannot be considered an example of linguistic determinism. Why not, for example, reverse the argument, and claim that the cognitive system of absolute spatial conception drives the language? The answer is that there is no way in which a community-wide cognitive practice of this sort could come to be shared except through its encoding in language and other communicative systems like gesture. It is the need to conform to these communicative systems that requires convergence in cognitive systems, not the other way around. (1992a:35–36)

Or to put it another way, 'it is the communal possession of a shared linguistic system that coerces our private conceptual systems into shared directions' (1992b:25, fn. 67).

However, the need to conform to communicative systems is not the only imaginable way in which Levinson's 'community-wide cognitive practice' can come to be shared. The possibility remains that such practices may come to be shared at least in part as a result of universal human cognitive responses to certain perceptual input, as the 'shared' absolute spatial reference systems of Aralle-Tabulahan and the Florutz German suggest.

Yet in one sense Levinson's answer must be correct. A conceptualisation of space is acquired during the early years of life. Although recent research has suggested that some spatial concepts develop prior to the acquisition of language,⁴³ the system of linguistic spatial reference to which the child is exposed presumably plays a subsequent part in acquiring spatial conceptualisation.⁴⁴ It is probably safe to assume, for example, that infants in Tzeltal-speaking communities begin to acquire a spatial conceptualisation before they themselves can directly perceive the very large-scale overall fall of land that is central to the system they are acquiring.

However, the relationship between language and non-linguistic conceptualisation must be a two-way process. While an infant acquiring Aralle-Tabulahan in a mountain village will be directed by the language they are acquiring to attend to elevation and the direction of watercourses, it is unlikely that this alone would be enough. It is unlikely that, were such an experiment possible, an attempt to bring the child up attending instead to a distant, non-visible, and therefore non-salient boundary between land and sea would succeed. The child would surely resort to salient phenomena to construct an accessible and meaningful system. Moreover, the directing of attention by the language can not have applied to the child's ancestors when they first settled the region. Instead, its topography must have forced them to attend to phenomena other than those relevant to their pre-existing system of spatial reference. And this need not be a one-off diachronic shift faced by a single generation. It may apply repeatedly for mobile individuals. As discussed in §5.1, Kokota speakers from Hurepelo, when visiting Goveo, must reconfigure their system of linguistic spatial reference, along with representations accessed by other modalities. Doing this is not without problems, initially causing confusion and constant attention to the physical phenomena. However, the fact that it can be done at all, and routinely if need be, demonstrates that for every individual, linguistic spatial reference is sensitive to perceptually accessed and conceptually mediated phenomena.

9 Conclusion

It was argued in §8 that the evidence presented throughout this paper demonstrates that systems of linguistic absolute spatial reference are sensitive to phenomena accessed through perceptual modalities, via some conceptual structure or processes (which therefore must pre-exist the linguistic system).

⁴³ See for example Landau (1996) and Mandler (1996). Bowerman (1996), however, presents experimental evidence which she argues demonstrates that while various spatial concepts develop before language, this basic pre-linguistic spatial knowledge requires input from language to coalesce into a conceptual structure.

⁴⁴ Though language does not constitute the only cultural input, *viz* Levinson's reference to the role of gesture in this.

As the title of this chapter suggests, I am inclined to view absolute spatial reference as a domain in which non-linguistic phenomena determine linguistic structure. However, whether or not the arguments regarding direction of input presented in §8 are accepted, I propose that certain phenomena in the physical world are perceptually highly salient to humans, to the extent that cultures and languages select one or more of these phenomena and construct a grammaticalised referential system motivated by it/them. I propose that linguistic absolute spatial reference has an exceptionally close relationship with these physical world phenomena accessed through a perceptual modality, presumably with an intervening conceptual structure or domain of interaction, and that consequently linguistic absolute reference constitutes an exceptionally, perhaps uniquely, revealing domain for the investigation of human spatial cognition and the nature of the relationship between language and conceptual and perceptual modalities. It is clear that this investigation requires detailed analyses of the systems of spatial reference in languages that are both genetically diverse and spoken in diverse topographic and geographic environments. I propose that this investigation can most profitably proceed with carefully targeted research comparing systems found in closely related languages spoken in very different environments, and in unrelated languages spoken in very similar environments. Finally, I propose that the absence of prior inhabitants makes remote Oceania a unique laboratory for the investigation of the restructuring of systems of spatial reference in new environments, and of the cognitive consequences of those restructurings.

Appendix 1: Kokota absolute spatial reference data

Kokota has four absolute directional terms in the non-vertical domain:

- | | | | |
|-----|--------------|-----------------------------|--|
| (1) | <i>paka</i> | west (i.e. towards sunset) | } The east–west axis runs northwest–southeast
somewhat less than 45° off cardinal east–west |
| | <i>fona</i> | east (i.e. towards sunrise) | |
| | <i>rhuku</i> | landward | |
| | <i>rauru</i> | seaward | |

All are unique directionals and are members of a closed class of local nouns. They may function to indicate location:

- (2) a. *Gita-palu-ñā ne au fa-gōnu, da-la*
 weINC-two-IMM RL exist CS-be.insensible weINC-go
au-gu rhuku.
 exist-PROG landward
 ‘We are living wrong, because we are living on the shore side [i.e. in the bush].’⁴⁵

⁴⁵ These examples are presented in the local orthography. Each letter has the expected IPA value except that *g* represents the voiced velar fricative, *g̃* the voiced velar plosive, and *ñ* the voiced velar nasal. Sonorants followed immediately by *h* represent voiceless counterparts to the corresponding voiced sonorant. Abbreviations used are:

3 – third person subject, CNT – contrastive, CS – causative, EXC – exclusive, FOC – focus, IMM – immediate aspect, INC – inclusive, PL – plural, PN – personal name, PNLOC – location name, PRF – perfective aspect, PROG – progressive aspect, RL – realis, SG – singular.

- b. *Gau ade paka, fafra mai gau.*
 youPL here west be.quick come youPL
 'You all here in the west, come quickly.'
- c. *Ana rauru bo.*
 that landward CNT
 'It (is on the) seaward (side of the house).'
 [Response to the question 'Where is your cookhouse?']

The directionals may also indicate direction of motion:

- (3) a. *Gai lao fona Buala.*
 weEXC go east PNLOC
 'We're going east to Buala.'
- b. *Mai paka, mai fona.*
 come west come east
 'Come westward, come eastward.'
 [Speaker is calling people from all parts of the village, located in a strip along the coast on the *paka-fona* axis.]
- c. *Kamo rauru bo s-ago.*
 go.across seaward CNT FOC-youSG
 'Paddle-turn seaward, you.'
 [Instruction to paddle so that a canoe which is moving westward will change course and be moving directly out to sea.]

The terms may also be used to indicate the location of motion, rather than its direction:

- (4) *Bili n-e-ke mai rauru bo, ago ne-ke lao rhuku bo.*
 PN RL-3-PRF come seaward CNT youSG RL-PRF go landward CNT
 'Billy came on the sea side, you went on the land side.'

In example (4) my informant James explains how Billy and I missed each other. I went to Billy's house from James' house, which faces seaward, by exiting on the seaward side but going around the back (the landward side) of the house and passed along the back (the landward side) of the row of other houses to Billy's house. At the same time Billy went from his house along the front (seaward side) of the row of houses to James' house. Note that in this example the directionals do not indicate the direction of the motion, but the location in the village, i.e. the side of the row of houses, where the motion took place. Both Billy's coming and my going took place parallel to the coast, along the *paka-fona* axis, not along the *rhuku-rauru* axis.

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7 *Mental images of the familiar: cultural strategies of spatial representations in Tonga*

GIOVANNI BENNARDO

1 Introduction¹

Drawing a map of a familiar environment is revealing about habitual patterns of mental representations of spatial relations (Downs & Stea 1977; Tversky 1981 and 1993; van Sommers 1984; Gould & White 1986; Monmonier 1991; Taylor & Tversky 1992; Wood 1992). Characteristics of the drawing process and of the final map are equally relevant as windows into the drawer's mind. During my stay in the Kingdom of Tonga, South Pacific, I asked 16 informants from the village of Houma to draw a map of their island named Vava'u.² Most of the informants (14/16 or 87.5 per cent) started their drawings from Neiafu, the major town of the island, and then drew villages and other geographical features in relation to it. When drawn, the border of the island—its coastline—was added last. This is a typical example:

¹ A first version of this paper was read at the 96th American Anthropological Association Meetings, Washington, DC, November 19–23, 1997. For an extensive treatment of the drawing activity see Bennardo, in press.

² Notice that Vava'u is the name of the northern Tongan Archipelago (there are three archipelagoes in Tonga) as well as the name of its major island.

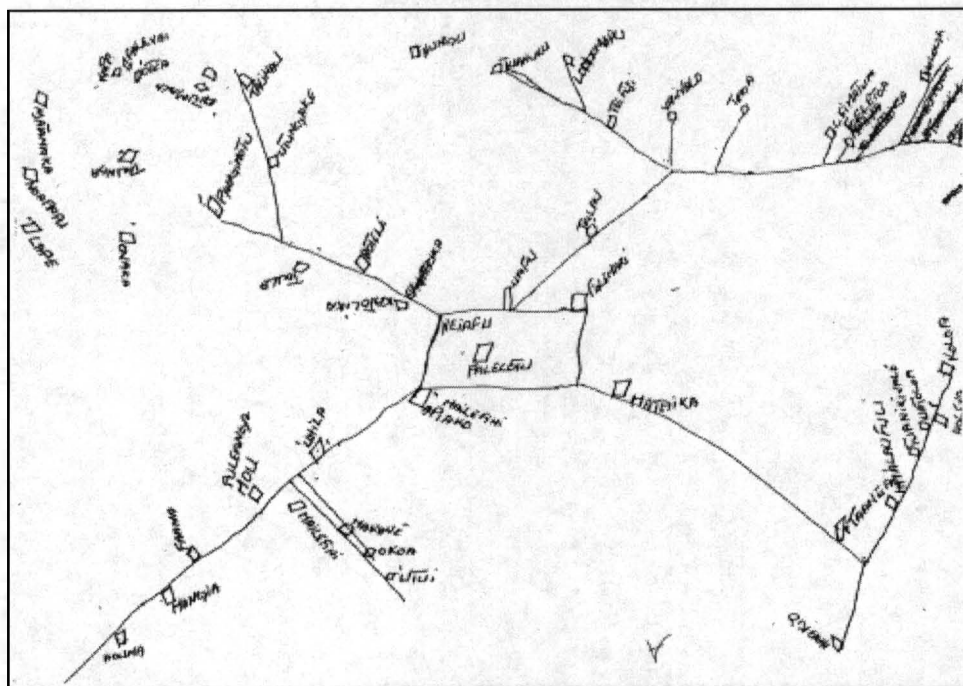


Figure 1: Drawing of the island of Vava'u by Salote

In most of the maps (10/16 or 62.5 per cent), the town of Neiafu was drawn in the middle (inland) of the island. In real geographical terms the town of Neiafu is on the southern coast (see Figure 8 below). A good example of this type of distortion is provided below in Figure 2:

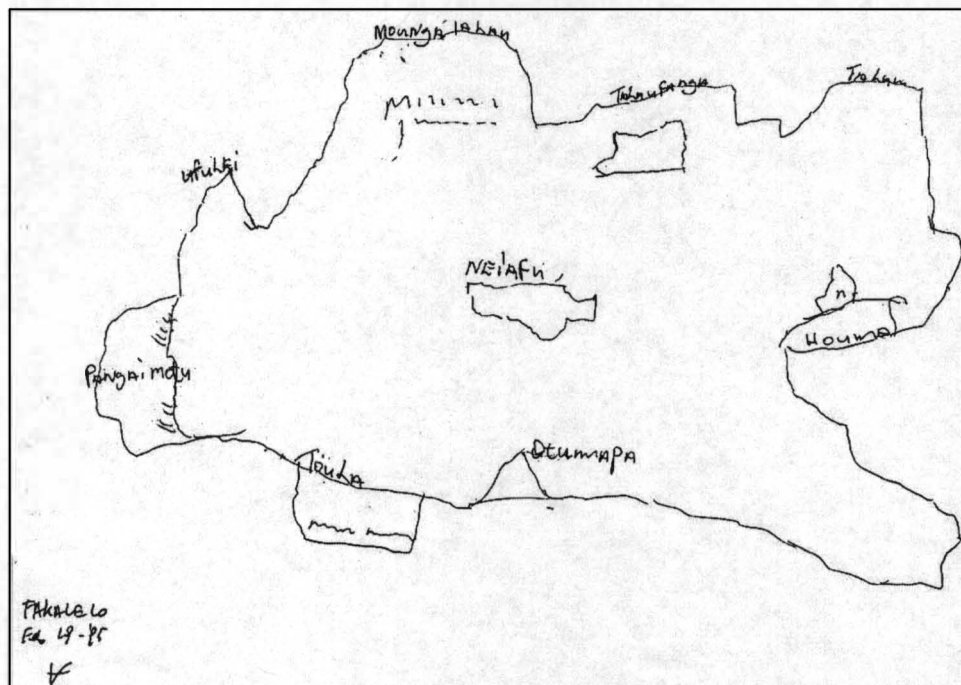


Figure 2: Drawing of the island of Vava'u by Fakalelo

The results of the analysis of the drawing process and of the maps produced allowed me to formulate the following hypothesis:

*Tongans privilege a 'radial' representation of spatial relationships, that is, first, a fixed point of reference or a centre is chosen, then, objects are represented centripetally or centrifugally from it. In other words, they privilege a 'radial' subtype of the absolute frame of reference.*³

In support of this hypothesis I will discuss three different types of data: linguistic, psychological, and ethnographic. Before I start with the presentation of the data, however, let me clarify briefly what is meant by a frame of reference (FOR), an absolute FOR, and what the major subtypes of an absolute FOR are.

The linguistic and psychological literature as well as the terminology about FORs was thoroughly reviewed by Levinson (1996) (but see also Levelt 1982, 1984; Carlson-Radvansky & Irwin 1993). He proposes a typology of FOR whose terminology I use, but whose content I have modified (Bennardo 1996). What is a FOR, then? A FOR is a set of coordinates used to locate objects (any entity) in space. Three types are defined: relative, intrinsic, and absolute.

A relative FOR is a system of coordinates centred on the speaker/viewer/cogniser. From the speaker 3 axes (or 6 vectors) are constructed, one vertically and two on the horizontal plane (front-back and left-right). Any object (concrete or abstract) in the space defined by these coordinates will be described in relation to the speaker.

An intrinsic FOR is a system of coordinates centred on an object other than the speaker. If the object moves in any direction, the axes will move accordingly keeping their origin on the object and the assigned orientation as well. A good example is the front of a car whose location can be determined without any reference to the speaker.

An absolute FOR is a system of coordinates neither centred on the speaker nor on an object. First, the vertical axis is constructed and kept exactly the same as for the other two FORs. Second, on the horizontal plane one or more objects (areas, points, landmarks) in the environment (or field) of the speaker are chosen as fixed orienting points (socially agreed on). Third, either the speaker or any object in its field is put into relationship with these 'chosen' objects or fixed points. Typical examples of absolute FORs are the four cardinal points system and the Oceanic one-axis system (land-sea).

I consider the strategy used by the informants to construct the map of the island of Vava'u a use of a 'radial' subtype of the absolute FOR. As in the other subtypes of the absolute FOR, a fixed point of reference (but only one this time) is chosen in the environment/field of the speaker, and later, objects (any entity) are located in relationship to this point. Specifically for the 'radial' subtype, relationships to the fixed point are centripetal or centrifugal in nature.

Supporting evidence for the mental habitus detected by the drawing activity can be found in a variety of aspects of the Tongan milieu. I will first look into a specific aspect of Tongan language, that is, how the concept of Direction is realised linguistically in Tongan. Since Direction is a necessary part of the concept of Movement, the conceptual contents of the linguistic expressions of Direction can provide a valuable entry into habitual mental representations of space.

I will later present the results of a series of psychological tests. These tests were administered because they can provide evidence about the preference of a FOR for storing spatial relationships in long-term memory. Finally, I will discuss some ethnographic data about patterns of exchange. The ethnographic data is relevant because mental preferences for representing spatial relationships can find their realisations in a variety of behaviour.

³ For an extensive treatment of a typology of FORs that includes a 'radial' subtype of the absolute frame of reference see Bennardo (forthcoming).

Linguistic behaviour is certainly an important one. We talk about spatial relationships in the same way we represent them mentally. However, we also move and organise the movement of people and objects in our environment according to the way in which we preferentially represent spatial relationships mentally. Looking at the way in which patterns of exchanges are typically realised in Tongan village life, then, can provide further evidence for any privileged way of representing spatial relationships mentally.

2 Support from language: Tongan directionals⁴

In Tongan there are five lexemes that are associated with the concept of Direction, which I call 'directionals' (Bennardo 1996). These five Tongan directionals can actually be divided into two subsets containing two and three members each. The first subset is made up of two lexemes associated with the vertical axis: *hake* 'up' and *hifo* 'down'. The second subset is made up of three lexemes that are not necessarily associated with any axes, either vertical or horizontal: *mai* 'towards centre', *atu* 'away from centre' and *ange* 'away from centre constituted by speaker and addressee'. In Churchward's (1953) *Tongan Grammar*, these five lexical items are grammatically defined as adverbs. They follow the verb directly and can be followed by a prepositional phrase.

The three members of the second subset of Tongan directionals, namely, *mai*, *atu*, and *ange*, have been defined in various ways by Churchward (1953:193), by Tchekhoff (1990:105), and by Broschart (1996:446). Churchward's definitions are the following:

- (a) *Mai*: hither, to or towards me or us, or to or towards the place or the time in which we or our thoughts are.
- (b) *Atu*: hence: onward or away from the place or the time in which we or our thoughts are; to or towards you, to or towards the place in which you or your thoughts are; thither, to the place aimed at or journeyed towards.
- (c) *Ange*: neither towards me nor towards you, but in some other direction; to or towards him or her or it or them; along, past; to or towards the place where I was or shall be or usually am (but am not at the present moment); to a greater degree ... (Churchward 1953:193).

These definitions are trying to capture not only the basic meanings of the three directionals, but also most of their uses. Tchekhoff's defines these same directionals in the following way:

Basically, the three are directional adverbs and indicate a movement: *mai* towards the centre; *atu* away from it; and *ange* to and from a place that is not the centre of interest, leaving the centre uninvolved. Thus it may apply to a place where the speaker has been, or will be, but where he is not at the time of speaking. (Tchekhoff 1990:105)

Broschart's definitions are:

Most commonly, *mai* is glossed as 'towards the speaker,' *atu* as 'away from the speaker/towards the hearer,' and *ange* as 'across to somebody other than speaker or hearer'. (Broschart 1996:446)

The goal of both Tchekhoff's and Broschart's work is to demonstrate how social factors heavily participate in the construction of certain uses of the three directionals. What must be pointed out, however, is that the meanings from which they start are not as rich as the

⁴ A similar but more extensive analysis of this issue appeared in Bennardo (1999).

meanings suggested by Churchward, and this is more so for Broschart than for Tchekhoff. Tchekhoff left out from the meaning of *atu* the 'towards the hearer' part, while Broschart left out much of their meanings except for the basic deictic ones.

Both authors later deal with many of the uses of these directionals and show how social and cultural factors contribute to these uses. I subscribe to some of their conclusions, but am compelled to suggest that if we start from a limited meaning of these directionals, our findings may be derived from inappropriate premises. I propose then to find a richer conceptual interpretation of these directionals that will provide a better base for socio-cultural investigations of their uses. In other words, I will use the extensions of these directionals to arrive at their intensions, so that possibly a better interpretation of those extensions may be suggested later.

In the first group of examples below, I provide sentences containing the three directionals with the deictic meaning (toward speaker, to addressee, away from speaker and addressee) indicated by Broschart (1996:446). These meanings are the most commonly used in the literature (see also Shumway 1988), and also, significantly, are the most frequently suggested by my informants.

- (1) a. *ka 'oku hanga mai ki mui*
 but PRES⁵ face to-me to back
 'but it faces me to the back'
- b. *'Osi tala atu 'oku 'i ai ('a) e fu'u 'akau.*
 PERF tell to-you PRES at there (pr.ø) the full.clas tree
 '(I) just told you there is a tree.'
- c. *'Oku ou hanga ange ki ai.*
 PRES I face to-it to it
 'I face it.'

It is common, however, to find sentences containing either *mai* or *atu* in which their meanings differ from the deictic ones just illustrated in example (1). Let us look first at *mai*.

- (2) *tali mai 'e he tuná*
 answer to-him pr.subj the eel
 'the eel answered him'

Sentence (2) is from the text of a very old Tongan myth that was narrated to me by an informant. She has just reported that the main character of the myth has asked the eel a question, and she goes on with the sentence indicated in (2). It is easy to see that the meaning of 'towards the speaker' is not intended. In fact, *mai* is used with the meaning of 'towards main focus of our attention at this moment', a meaning that was included in Churchward's definition.

I subscribe here to Tchekhoff's definition of *mai* as 'towards centre'. In fact, her suggestion raises the level of abstraction of the definition, thus allowing one to include in the concept of 'centre' both 'speaker' and 'main focus of attention' as two possible realisations.

As regards *atu*, I would like to introduce a sentence that occurs very commonly in everyday conversations:

⁵ List of abbreviations used in text:

FOR – frame of reference, PRES – present, PERF – perfect, clas – classifier, pr – preposition introducing subject or object, pr.subj – preposition introducing subject

- (3) *Hū atu.*
 enter to-you?
 'Enter.'

In order for the sentence in (3) to be produced, the speaker and the addressee must both be outside the place that will be entered. Moreover, the speaker can be facing one of the addressee's sides (either left or right) while the addressee may be facing the entrance of the place. Thus, the centre from which movement is initiated cannot possibly coincide with the speaker and it must refer to the addressee.

The directional, *atu*, then, cannot be glossed only as 'toward addressee'. This is why I gloss it (in agreement with Tcheckoff and Churchward) as 'away from centre'. The centre will be canonically the speaker, thus allowing as a possible constrained instantiation the meaning of 'toward addressee'. However, it can also be any other place, thus allowing as another possible constrained instantiation the meaning of 'away from addressee'.

Relevant support for the meanings assigned to *mai* and *atu* also comes from language externally, that is, from languages spoken in Melanesia, the geographical area considered to be the motherland for Polynesian languages and cultures. Specifically, from research conducted on Boumaa spoken in Fiji (Dixon 1988), on Longgu spoken in the Solomon Islands (Hill 1997), and on many languages spoken in New Caledonia (Ozanne-Riverre 1997), it can be suggested that the Melanesian system for directionals is basically a centripetal–centrifugal one. This system clearly appears to be at work when we consider the meaning of *mai* as 'toward centre' and the meaning of *atu* as 'away from centre' in Tongan. Figure 3 is a graphic representation of the two meanings.

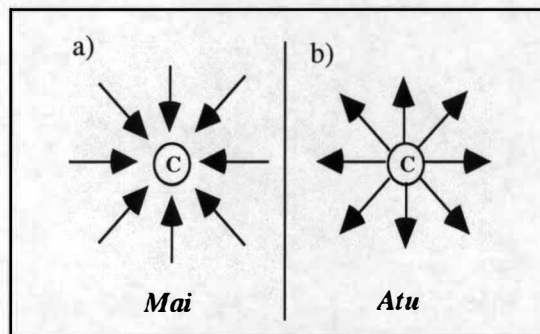


Figure 3: The meaning of *mai* and *atu*

In Figure 3a the meaning of *mai* is graphically represented as centripetal or 'towards the centre' (notice that the arrows do not reach the centre). In the same figure the meaning of *atu* is represented as centrifugal or 'away from the centre' (notice that the arrows start from the centre). In both Figures 3a and 3b the letter 'C' stands for 'centre'.

The Tongan directional system goes beyond this 'basic' Melanesian system and introduces a new lexical item. This new lexical item is the third directional, *ange*.⁶ The meaning of *ange* has to be considered a subcase of the meaning of *atu*. In fact, it has been typically glossed as 'away from speaker and addressee'. In other words, its meaning is 'away from centre' as for *atu*, but the centre considered is a very specific one, that is, constituted by the speaker and the addressee.

⁶ Ken Cook (pers. comm.) pointed out to me that Hawaiian does not have a cognate of *ange*, but that Samoan does (*ane*). So it is possible that some Eastern Polynesian languages may have lost it. This, however, does not deny the possibility of a Tongan innovation over Melanesian languages.

These three Tongan directionals may be graphically represented in this way:

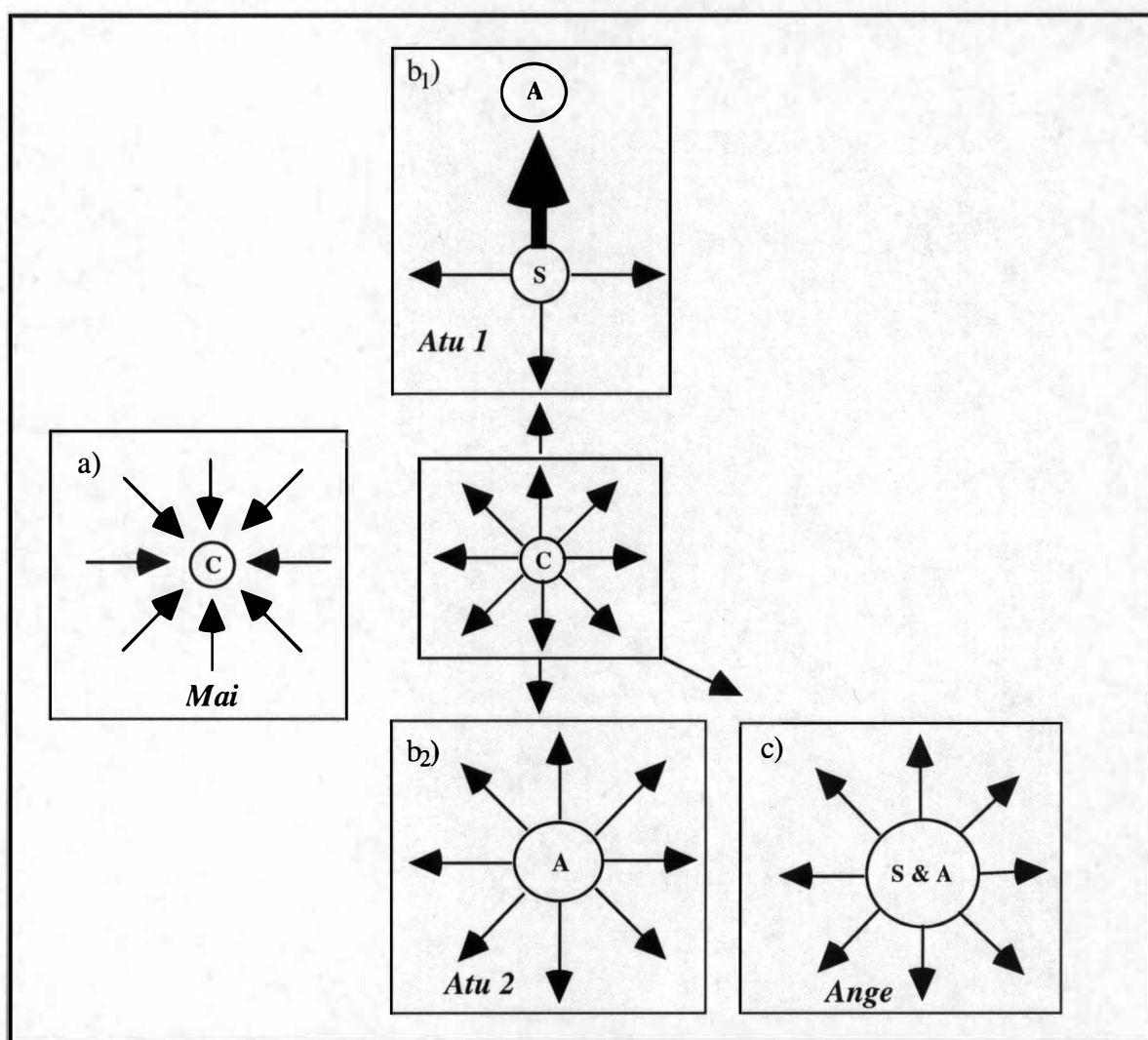


Figure 4: The meaning of the second set of directionals in Tongan

The conceptual content of the linguistic innovation evident in this set of directionals is present in other parts of the Tongan language. In fact, Tongan has a system of demonstratives based on a triadic distinction: *eni* 'this', for object/s close to speaker; *ena* 'that', for object/s close to addressee; and *é* 'that', for object/s close to neither of the above. Melanesian languages also show a similar triadic system for demonstratives (see Pawley 1974; Hill 1997; and Ozanne-Riverre 1997).

Furthermore, if we look at the system of personal pronouns, we can see that the inclusive- or exclusive-of-addressee parameter is a very productive one in Tongan. There are in Tongan singular personal pronouns, dual ones and plural or more-than-two ones. Both the dual and the plural (more-than-two) for the first person have distinct forms for the inclusion or exclusion of the addressee (see Churchward 1953).

The conceptual apparatus is in place both in Melanesian languages and Tongan, but the linguistic instantiation of this conceptual content in directionals occurs only in Tongan. Then, this instance of innovation in Tongan is exclusively about instantiating some pre-existing

conceptual material, such as closeness or distance from centre and inclusion or exclusion of addressee, into a new directional.

However, the fact that the chosen way to innovate was to lexicalise a specific instantiation of the meaning of 'centre' is a clear indication of the relevance that this concept plays in Tongan conceptualisations/representations of the world. Moreover, the three directionals discussed constitute a distinct lexical set in which the concepts of centre and that of centripetal and centrifugal movement are tightly conjoined and expressed linguistically. I consider this linguistic and conceptual phenomenon as evidence in support of my hypothesis for a distinct preference by Tongans of 'radiality' in their mental representations of spatial relationships.

3 Support from psychological tasks: a preference for the absolute FOR

Language has traditionally been considered the privileged pathway to access the human mind.⁷ In the previous section, I have used evidence from the conceptual analyses of linguistic data to support the hypothesis I introduced at the beginning of this work. Another common way to access mental representations has been the controlled experiment or task/test. Most of the psychological literature about the human mind is based on data acquired in this way.

The controlled experiment/task/test offers a number of advantages over other ways of acquiring data about mental representations. Data can be quantified and obtained from a statistical representative sample of the population to be investigated. Thus, individual idiosyncratic responses affecting the final results can be avoided. Tasks can be devised that allow one to discriminate between mental/conceptual and mental/linguistic representations. In spite of the unavoidable contrived situations created by the administration of these tasks, they can be ecologically sound. That is, they can sufficiently resemble real life tasks (Cognitive Anthropology Research Group 1992).

During my residence in Tonga I administered several psychological tasks to twenty-seven informants in three different villages: Ngele'ia, Hihifo, and Houma. Three of these tasks were called 'Animals in a Row', 'Red and Blue Chips', and 'Transitivity'. Members of the Cognitive Anthropology Research Group at the Max-Planck Institute, Nijmegen, The Netherlands prepared them.⁸ The goal of these tasks was to collect data about possible preferences of use (or habituation) of a specific FOR within a long-term memory activity that required no explicit use of language. Since the structure of the three tasks is very similar, I describe below only the task called 'Animals in a Row'.

An informant who was administered the 'Animals in a Row' task was required to stand in front of a table (in some cases, a box, a trunk, or an elevated surface). On the table s/he was shown a set of three small plastic farm animals—a cow, a pig, and a horse. The objects were shown standing in a row, all facing the same direction, either to the right or the left on the transverse axis in front of the informant. The informant was then asked (in Tongan) to memorise the position of the animals. When the informant declared him/herself ready to go to the next step (typically, after a few seconds) the animals were taken away and a minimum of

⁷ See Dougherty (1985) for an historical treatment of this point.

⁸ For a full description of the tasks see Cognitive Anthropology Research Group (CARG) (1992), and Bennardo (1996).

sixty seconds had to elapse in which some conversation took place between the informant and the researcher and/or assistant. This delay was necessary to ensure that long-term memory was engaged in remembering the spatial array.

Then, the informant was directed to another table situated at some distance and opposite the first one. Here s/he was asked to stand in front of this second table in a position that required a 180 degrees rotation from the previous one. The researcher then handed the three animals to the informant and the informant had to put them on the new table in the sequence and direction s/he had seen them earlier. This constituted the end of one trial. The trial was repeated five times for each informant and each time the sequence and overall direction of the three animals shown changed randomly. A training trial preceded the beginning of the five-part task to make sure that its content had been clearly understood.

The way in which the informant put down the small plastic animals provided a very clear cue towards an understanding of which frame of reference had been used to remember the spatial arrangement of the animals observed a few seconds (minimum sixty) before. In fact, there are only two ways (other solutions were considered mistakes) in which the informants could arrange the overall direction of the three animals. If participants used a relative frame of reference, the overall direction of the animals would stay the same as in the way they were seen, that is, either to the informant's own left or right. If participants used an absolute frame of reference, the direction of the animals would stay the same relative to some landmark or cardinal point, but not to the informant's left or right. The figure below illustrates the point just made.

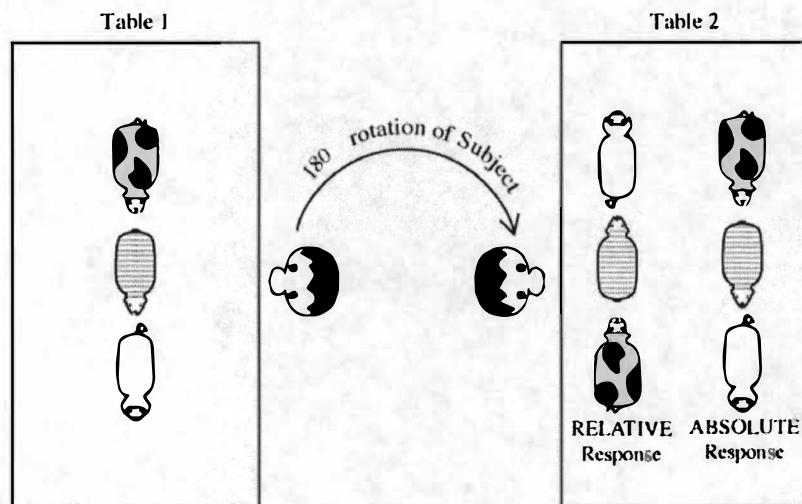


Figure 5: Possible responses for 'animals in a row' task (from Levinson 1996:113)

The content of Figure 5 shows how the choice of one of the frames of reference, relative or absolute, for coding in memory eventually determines the responses given by the informant.

Beyond understanding instructions in the native language, there was no other role assigned to language in performing this task. The stimulus involved only visual perception and the response only motor activity. Of course, between the exposure to the stimulus situation and the response some coding of spatial relationships by means of a frame of reference in non-perceptual memory was involved. The nature of this coding—as distinct from a linguistic encoding—was exactly the target of this task.

The results obtained by these psychological tasks point toward a specific preference by Tongans in mentally representing spatial relationships. The responses showing a preference by the informants for the absolute FOR are from 2 to 3½ times larger than those showing a preference for the relative FOR. When considering the total of the responses for all three tasks, the preference for the absolute FOR is on average 2½ times larger than the preference for the relative FOR. I consider these results as a clear indication of a Tongan preference to represent spatial relationships by means of an absolute FOR.

The results for the 'Animals in a Row' task and for all the three tasks combined are shown in Table 1 below:

Table 1: Results for the 'animals in a row' task

TASK	SITE	# OF INFORMs	ABS	REL	???
Animals in a Row	Ngele'ia	9	6	3	
	Hihifo	8	7	1	
	Houma	10	8	2	
Sub-Total		27	21	6	
		100%	78%	22%	
3-Task Informants		81	51	22	8
3-Task Total		100%	63%	27%	10%
Total Adjusted		adjusted	69.8%	30.2%	

It must be underlined that these data lack specificity, that is, they do not tell us which subtype of the absolute FOR is used. Nonetheless, the preference for the absolute FOR in mental representations of spatial relationships in long-term memory is strong. Moreover, it blends well with the linguistic evidence of the realisation of a 'radial' subtype of the absolute FOR in a group of Tongan directionals. Both findings provide converging indications for the validity of the hypothesis advanced after the analysis of the drawings: that is, the mental representation of spatial relationships privileged by Tongans is 'radial'.

4 Support from ethnographic data: Tongan patterns of exchange

If preference is given to the 'radial' subtype of the absolute FOR, we should also be able to detect this phenomenon in behaviour that requires the structuring and organisation of a number of people and objects. In other words, a habitual mental representation of spatial relationships can constrain individual and social behaviour. Furthermore, social behaviour is an informing component in contexts in which this preference or habit is learned and reinforced.⁹ Thus, it is sound to look at characteristics of social behaviour for further evidence of possible preferences of mental representations of spatial relationships.

⁹ For the relationship between culture and language acquisition see Ochs (1982, 1987, 1992), Duranti and Ochs (1985), and Platt (1986).

I looked at cultural practices such as patterns of exchange in Tonga in which movement of services and food among people is involved. I analysed three typical patterns of exchange that characterise the Tongan cultural milieu: *fakaafe* 'invitation' at the village level; *kātoanga maka fakamanatu* 'commemorative stone feast' at the island level; and *fetongi* 'exchange' at the inter-island level. I will comment briefly on the first one only, although similar results were found in the other two cases as well (see Bennardo 1996:306ff.).

A *fakaafe* is an invitation to eat that is extended to a minister, male or female, who comes from another village to deliver a sermon during Sunday church services (at least this is the form I have experienced). When planning the church activities, usually at the beginning of the year, the whole congregation gathers in the church and people volunteer to give a *fakaafe* on a specific date or dates of the year. The most prominent people in the village are expected to and usually offer to give more than one *fakaafe*.

It is useful at this point to define concepts like *fāmili* 'family, household' and *kāinga* 'extended family' because they are actively used to organise, prepare, and give a *fakaafe*. A *fāmili* is made up of a married couple and their children living together in the same house, and usually includes some male and/or female collaterals and affinals (usually sons- or daughters-in-law). The '*ulumotu*'a 'head of family' presides over this group.

The *kāinga* 'extended family' is a group of people living in different households, mostly in the same village, but often including residences in other villages. They are related to one another consanguineally, but all the affinal and co-lateral relatives are also included. These latter are both maternally and paternally acquired. Also for this group an '*ulumotu*'a presides over the affairs of its members (of course, he also presides over the affairs of his own *fāmili*).

When the date of the *fakaafe* is approaching, an informal meeting is held in the household of the person sponsoring the *fakaafe*. In this meeting several things are discussed and decided. First is the quantity of food to be prepared. This involves deciding about the number, quantity and size of:

- pigs and/or goats (sometimes sheep meat is also acquired from stores),
- fish/shellfish,
- root crops (for example, taro, yams, and tapioca),
- beverages (for example, lemon water, sodas, and most importantly *kava*).

This meeting also decides the quantity and type of:

- fruit (for example, bananas, pineapples, watermelons),
- coconuts to be used for cooking and as drink,
- desserts (for example, pies, cookies, ice-cream).

Finally, decisions are made about all sorts of other complementary, but necessary things like dishes, pans, silverware, banana leaves for cooking, palm leaves for decoration, sweets, chips, and even balloons.

It is obvious from the list just introduced that no individual person could possibly put together all that food without going through a draining financial experience. This is the second important issue discussed at the meeting. The members of the *fāmili* are asked to pool together their individual resources and contribute in a differentiated manner to the accomplishment of the task. Typically, however, members of the *kāinga* are also contacted and are required to contribute to the event in a variety of ways that span from bringing live animals, to harvesting root crops, to providing manual labour.

Finally, the meeting closes over the assignment of specific tasks to each individual or group of individuals. However, most of these tasks are so intertwined with traditional daily gendered tasks that they almost go unmentioned if not for any special, specific one that may occur out of unforeseen circumstances. Consequently, men will typically, among other things, harvest root crop and slaughter animals as well as prepare the underground oven and gather a sufficient amount of coconuts and fruit. Women will typically, among other things, collect shellfish from the close-by reef and prepare the non-meat food to be put in the underground oven, bake pies, and clean and decorate the house and the area around it. Children and young people will also take part in the preparation, but their tasks may vary according to need.

By the following Saturday evening, all the food to be cooked is already gathered within the premises of the household involved. The whole day is marked by young boys chasing and seizing free-ranging animals such as pigs or fowls, or the arrival of men from their garden with a variety of crops and/or fruit, and the feverish cleaning activity of the house and its surroundings. Finally, the day closes with the usual *kava* drinking by the men in the hall next to the church.

Very early on Sunday morning, between 3 and 4 o'clock, noise of people getting up and starting a variety of activities is perceptible in the household still embraced by a thick, humid dark blanket. The first light of dawn sees an underground oven already full of burning wood filling the air with its pungent smell. The bell which calls people for the 5 o'clock early morning service has no job to do since everybody is already up by this time, fulfilling their tasks. Everything will be ready by approximately 12 o'clock when, after the end of a slightly longer 10 o'clock second morning service, the '*ulumotu*'a 'head of family' comes back home with his guests.

In fact, not only the person giving the sermon is invited for lunch, but also the '*eiki*' 'chief', the '*ofisa kolo*' 'town officer', the '*faifekau*' 'minister', and any other person, man or woman, who has accepted the repeated invitation made to people at the end of the service in front of the church. Usually, however, almost everybody declines the invitation, with the exception of a few persons who may be part of another long-term exchange not specifically related to the present event.

Meanwhile the food has been laid out on the best mats in the main room of the house. When everybody arrives in the room they sit on the floor crossed-legged and their location is determined in a fashion similar to the '*fono*' 'village meeting' and formal *kava* ceremony (see Gifford 1929; Bott 1972; Ferdon 1987). This time, however, the arrangement of the people follows the rectangular shape of the tablecloth on the mats. The chief sits at the '*mu*'a 'front' of the house (Bennardo 2000), and so will the guest of honour (the visiting minister), the '*ofisa kolo*', and any other important person participating. Other people will sit in a decreasing ranking order away from the chief (on both sides) with the children closing the group.

Eating is preceded by a brief prayer and is punctuated by a number of speeches started by the '*ulumotu*'a, followed by the guest of honour, the chief, and including anybody who feels his/her speech is due on that specific occasion. When everybody has finished eating, the gathering is finished. This usually takes place when the chief (in agreement with the guest of honour) decides to stand up and leave. Soon after everybody has left, all the people who have prepared the food, both men and women, come in to eat.

The quantity of food prepared so much exceeds the need of both groups of eaters that a great amount of leftovers is available when everybody is finished. The women of the house then typically partition this food so as to make as many portions as the number of '*fāмили*' from the '*kāinga*' that have participated in the event preparation. The distribution of these portions

follows immediately after the partitioning and before people leave to go back to their houses. If no person is present from a specific *fāмили*, usually a youngster is sent with a portion of food to the house of that specific *fāмили*. This distribution of food closes the event and all the people who have contributed to it hurry home to a deserved rest. After all, it is Sunday, and no working activity is legally permitted on Sundays in Tonga, not even car driving!¹⁰

A successful realisation of a *fakaafe* requires the organisation and smooth movement of a variety of people and objects—especially food—between a number of locations. These movements follow specific patterns that are represented mentally. The nature and form of these mental representations can be arrived at by carefully analysing the various stages of the event.

First, an individual volunteers to give a *fakaafe* and becomes the focus or ‘centre’ of a number of activities. Second, a variety of resources—food and labour—are pooled by this individual from a culturally circumscribed number of people: his/her *kāinga*. The movement of these resources is centripetal, that is, they are all directed towards the established ‘centre’.

Third, the visiting minister coming to deliver the Sunday sermon establishes another focal point or ‘centre’. He gives to the community his sermon and the community thanks him by asking him to be part of a *fakaafe*. This focal role played by the visiting minister is also reinforced by other overt behaviour. At the end of the Sunday service, many individuals approach him on the church threshold and by kissing his hand—or just holding it in theirs for few moments—express their gratitude with words of praise.

Furthermore, the place where he is asked to sit at the eating-place reinforces the centrality of the visiting minister. He sits at the *mu’a* ‘front’ of the house. This place is usually reserved for the chief, who shares it on this occasion with the guest, the *ofisa kolo* ‘town officer’, and the local minister. Finally, the event is closed by a centrifugal movement of the leftover food back towards the same periphery (and only to that one) that participated in the centripetal construction of the ‘centre’. The whole event and the movements involved in it can be schematically represented in the following manner:

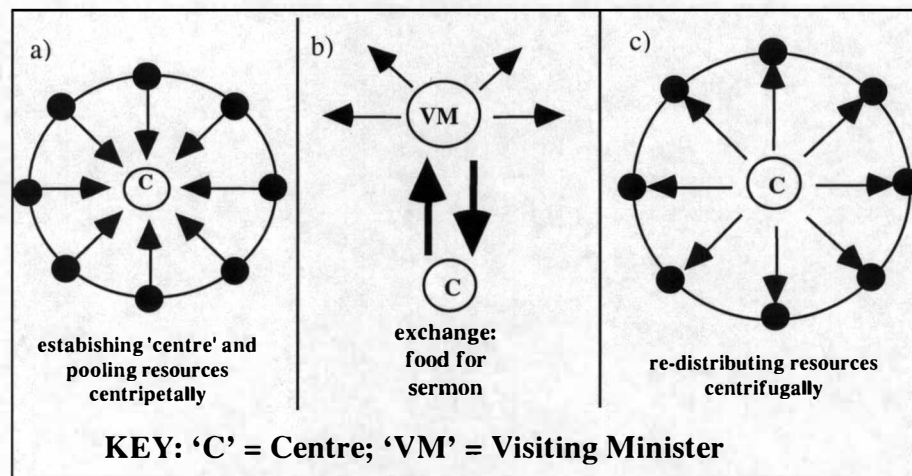


Figure 6: Representations of the exchanges during the *fakaafe*

¹⁰ In 1994 this ban was lifted, but generally people still comply with it.

In part (a) of Figure 6 two moments before the actual *fakaafe* are shown together: the establishing of a 'centre' and the pooling of resources from the *fāmili* and the *kāinga*. Part (b) of the same figure shows the section of the event in which resources gathered in the 'centre'—food—are offered to a fixed point of reference, that is, the visiting minister. The visiting minister is a 'constituted centre' or focus of the congregation in the Sunday service. He has given to the assembled people the gift of his sermon. We may, then, also consider the offering of the food to him as a centripetal movement towards a 'centre', embodied in this case by the visiting minister. Finally, part (c) shows the centrifugal movement of the leftover resources returning to the periphery—the members of the *kāinga*.

This schematic description of the behaviour people display in planning, preparing, and performing a *fakaafe* provides further support for the hypothesis introduced at the beginning of this work. In fact, centripetal and centrifugal movements of objects to and from a fixed centre (in the preparation, and during the performing of the *fakaafe* by the giver and the visiting minister—the two 'centres') are possible only by the mental representation of those spatial relationships with a specific subtype of the absolute FOR, that is, a 'radial' representation.

It is important to highlight the fact that the movements of objects, resources, and sermon are made possible by a similar thought pattern. In fact, the thinking pattern that has to be activated to centripetally pool the resources for the *fakaafe* from the *fāmili* and the *kāinga* is 'radial'. Similarly, the thinking pattern behind the centrifugal distribution of the food back to the *kāinga* is 'radial'. In addition, the thinking pattern activated in performing the exchange of the sermon to the congregation for food from one of its members is also 'radial'. In this last case, however, the two movements are reversed, that is, first the centrifugal (giving the sermon) and then the centripetal (receiving the food) movement.

We may conclude this very brief discussion about the *fakaafe* suggesting that this Tongan event displays the realisation of a variety of mental representations of spatial relationships. However, they frequently share a common attribute: 'radiality'. In other words, the FOR that is habitually used in planning, organising, and performing this event is a 'radial' subtype of the absolute FOR.

5 Conclusion

In closing, I introduce two drawings and ask the reader to compare them with the sketch map of Vava'u inserted between them.

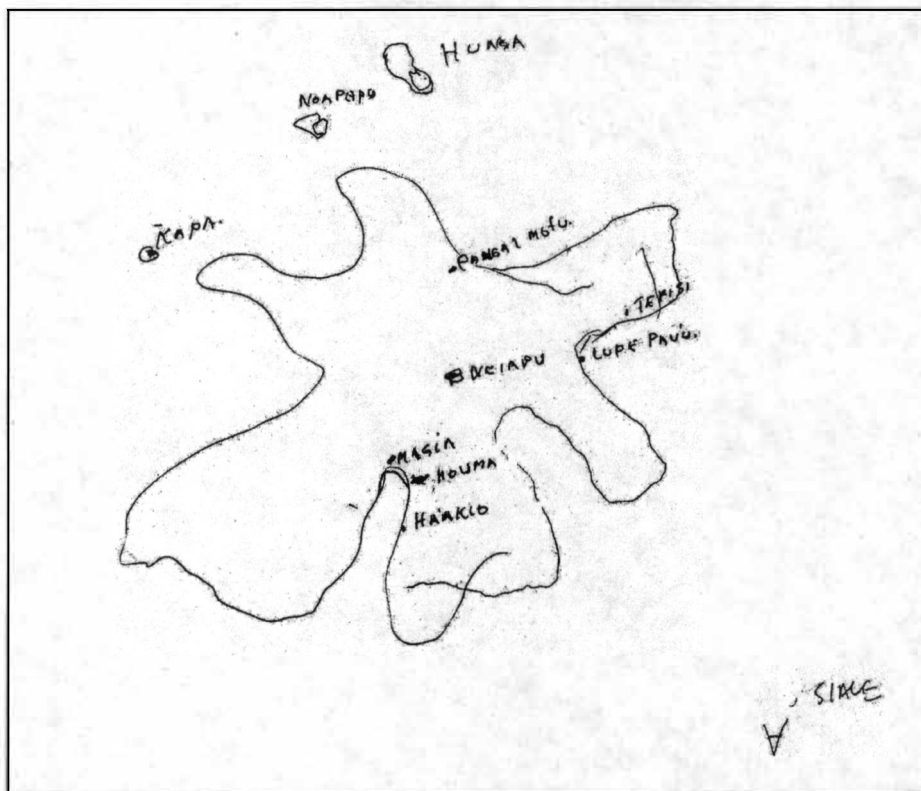


Figure 9: Drawing of the island of Vava'u by Siale, a Tongan woman

Centre, radially, and centripetal or centrifugal movements are the key concepts to interpret these drawings. A centre is chosen in the two drawings (Neiafu), and any other object (town, village, landmark) is centripetally or centrifugally related to it. When mentally representing spatial relationships, then, Tongans privilege a subtype of the absolute FOR that can be labelled 'radial'.

Drawing activities provide a window into people's mind. Typically, however, language has been considered the privileged pathway to access the human mind. Consequently, to find support for my interpretation of the drawings I obtained, I investigated relevant features of the Tongan language. Congruent findings between the two sets of data emerged. Tongan directionals express the conceptualisation of movements as towards or away from a centre. Innovating from a 'basic' centripetal-centrifugal Melanesian System, the Tongan directional system is triadic—*mai*, *atu*, and *ange*. The innovation regards only the linguistic realisation of a specific type of 'centre'—one including the speaker and the addressee—in a new lexeme, namely, *ange*.

Further support for the hypothesis advanced came from the administration of psychological tasks. Avoiding language, these tasks tapped into mental representations of spatial relationships in long-term memory. A pattern emerged that converges with the findings from language and from the drawing activity. In fact, these tasks revealed a preference for the use of the absolute FOR.

Finally, mental representations are used to act socially and they are learned in social contexts. It was unavoidable then to look into forms of social behaviour to ascertain the validity of the hypothesis proposed. The interpretation of patterns of exchange in a Tongan *fakaafe* converges with the other findings. The patterns of exchange analysed revealed a radial format that was interpreted as evidence of mental representations of spatial relations

along similar forms. The ethnographic data also showed how various aspects of mental life—or mental representations—are intertwined in social contexts. Spatial relations, kinship structure, religious life, and others were minimally touched upon during the analysis.

In line with Keesing's (1979), Dougherty's (1985), and more recently D'Andrade's (1989, 1995), Bloch's (1991), and Shore's (1996) positions, I value ethnographic data because it provides clarification and addition when investigating issues of cognition. As Shore (1996:8) puts it:

Clifford Geertz was right when he insisted that we understand the mind as naturally located outside the head, in the midst of social life. But it is equally true that these culturally orchestrated landscapes are also to be found inscribed as dimensions of the mind. This is why cognitive science is unavoidably an ethnographic enterprise.

Embedding research about mental representations in the rich ethnographic context does render justice to individuals, groups, and people as cultural beings. Leaving aside the informing cultural aspect would make a very poor investigation of cognitive activities. This work is intended to be an attempt to move cognitive science towards this richer holistic direction.

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8 *On the relevance of point field for spatiality in Oceania*

F.K. LEHMAN (F.K.L. CHIT HLAING) AND DAVID J. HERDRICH

1 Introduction

We shall begin by drawing an analytical distinction between two fundamental and, we imagine, mutually exhaustive alternative conceptions of spatiality that one of us has written about at length elsewhere (Lehman 1980). Lehman was first driven to apply these constructions, which have independent mathematical motivation, to the analysis of culturally specific representations of (more accurately, ways of constructing) space in the context of ethnographic, historical and linguistic work in Southeast Asia, more particularly Burma and Thailand. However, there are two good reasons for reprising this material, and adding to it in a collection of papers on Oceanic representations of space.

In the first place, it is relatively uncontroversial, at least among comparative linguists, that Austronesian languages are descended ultimately from a proto-language originally found in Southeast Asia.¹ In the present context of discussion I need not recapitulate the argument. So, *if*, on independent evidence, one finds Oceanic (specifically Polynesian) ways of conceptualising space to require the sort of point-field analysis that holds for Burma and Thailand, it just might be due in some measure to a common, though very distant, historical basis. In itself this is unimportant, both because of remoteness in time and space and, more significantly, because in Southeast Asia the point-field representation, or at least the context in

¹ Some Oceanic linguists and certainly some archaeologists may dispute this claim still, as Jeffrey Clark reminds us. In the first place some of them continue to follow an older view, due originally to I. Dyen, that places the original home of the Austronesian ancestors somewhere in Melanesia, and others, modifying this idea on the basis of prehistoric evidence in part prefer either Taiwan, the Philippines or somewhere else in Insular Southeast Asia. However, these are increasingly minority views, and it seems to many that these views are really about the centre of *dispersion* from which Proto Austronesian may have broken up into its immediate daughter subfamilies. It is simply beyond the scope of the present paper to go into these questions. In addition, it is to be understood that (mainland) Southeast Asia includes much or all of what, in more historic times has been South China (see, e.g. Belwood 1992). This region certainly was the home of Proto Tai and, both on the grounds of the Austro-Tai hypothesis and on independent archaeological grounds, is a much-preferred region for the placement of Proto Austronesian. Thus, on the view taken here and by many comparativists, the question is, or ought to be, what route led from somewhere in South China to which part of the Islands, and from the latter to the dispersion of the subgroups of the family.

which it surfaces most particularly, seems to be restricted to societies practising Theravāda Buddhism. And, it is argued in the paper cited above, that part of the reason for its choice as the default, but never sole, representational form has to do with some very particular cosmological conceptual assumptions within Buddhism as against Brahmanism, both having a common source in Indian civilisation. Still, whilst it may well be that Buddhism motivates the preference for point-field representations of space in Burma and Thailand, it has a deeper source, arguably at least, independent of Indic cultural influences that has not previously been made clear.

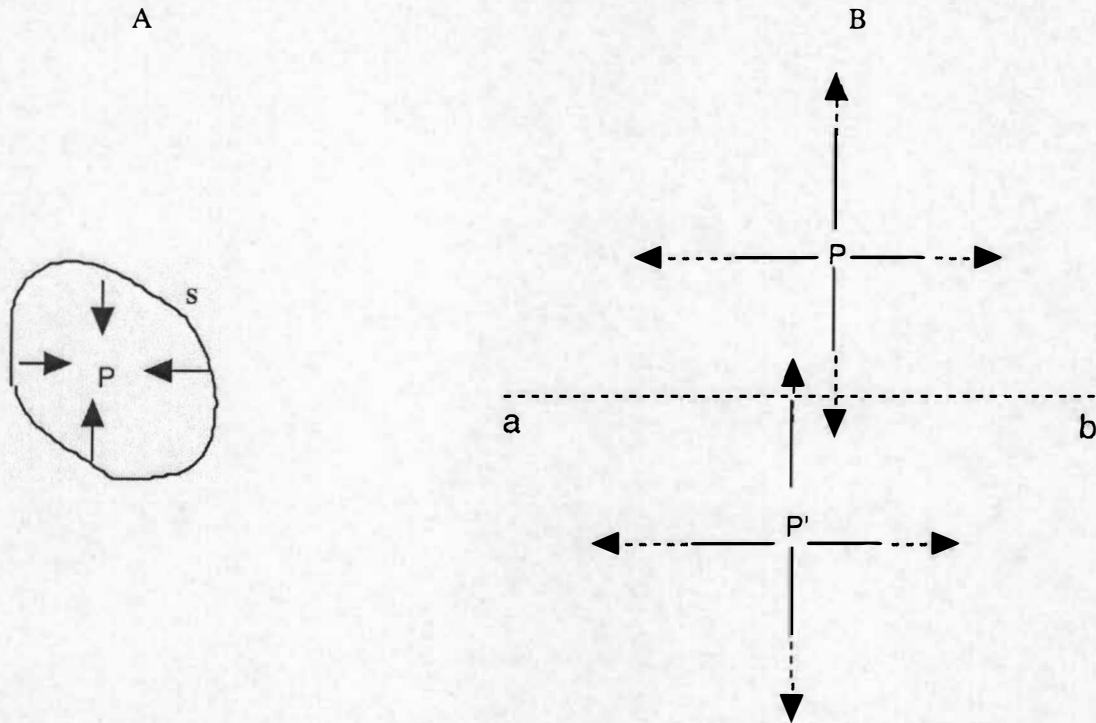
That is, there is reason to suppose that it has deeper roots in the pan Tai, presumably Proto Tai way of thinking about space. For, the pan Tai concept of *m̄uang* (see Lehman 1980) as the representation of political, social and other 'domains' arguably goes back to a pre-Indianised era in Tai cultural history, in as much as it is employed in all Tai languages and cultures, even those arguably, though not incontrovertibly, outside the scope of Indianised influences. In any case, if one can claim that the concept can be traced back to Proto Tai sources, the relevance for Austronesian becomes more suggestive culture historically, just in case one subscribes to the increasingly more accepted historical linguistic hypothesis that ultimately Tai and Austronesian are genetically related (the Austro-Tai hypothesis—see Benedict 1990). One of us (Lehman), as a linguist specialising in that part of the world, is largely persuaded in favour of this hypothesis. However, regardless of that linguistic question, the probability of shared ancient cultural influences between the Tai and Austronesian worlds is very high.

Nevertheless, in so far as it appears on abstract computational grounds, there are only two possible, imaginable generalised ways of representing space, viz., as either point fields or as axiomatically bounded 'containers'. It is interesting that we have no formal name for the latter manner of thinking about space, but maybe that is because it is the natural 'default' idea of space in human cognition, arguably the most widespread the world over (see Lakoff & Johnson 1980:chs 15, 16 for a discussion of *conceptual* spaces viewed as containers in English; and Johnson 1987:22ff. for various substantive spaces viewed as containers). Therefore, the parallel between Polynesian and Southeast Asian ways of thinking about space may be simply accidental convergences. However, the likelihood of such an accident diminishes just in case one can demonstrate on the basis of broad comparative investigation yet to be undertaken (not possible given our current knowledge about how space is conceptualised round the world) that the dominance of point-field representations is far from randomly distributed amongst the world's cultures and languages. This is a project that needs to be pursued. At any rate, such considerations lead us to the second motivation for the present paper.

There is distinct evidence from within Polynesian ethnography that space is commonly thought of in a way that strongly suggests a point-field analysis. Some of the evidence is to be found in, for instance, Kenneth Cook's paper in the present collection with respect to Hawai'i, and, perhaps more explicitly, in Giovanni Bennardo's paper regarding Tonga. Primarily, however, Herdrich (ethnographer, cognitive scientist and archaeologist, working for some years in Samoa) has produced massive evidence that such an analysis is necessary to account for the fact of the way Samoans commonly talk about space and behave socially and culturally in and with regard to the space they inhabit traditionally. Herdrich's evidence and arguments will constitute the second part of this paper. It should be obvious that Herdrich has been influenced by Lehman's work in making point-field analysis his working hypothesis. But he has carried it much farther, and has adduced evidence for it from far more domains of social and material life in Samoa than ever Lehman did for Southeast Asia.

A caveat is required at this juncture. One doubts if any cultural system ever relies on only one or other of the two ways of thinking about space—as point fields or as containers. This has long since been noted with regard to Southeast Asia, and you will see presently that Herdrich has to do the same for his Samoan data. It is sufficient and correct to say simply that some cultures emphasise the one form where others emphasise the other. For instance, taking the neutral ground of ‘Western’ culture (however you want to define that problematical category), it is obvious that most ordinary people, say speakers of English, think about space as a container, as something like a box. The argument has two factual aspects. First, we tend to position objects, either absolutely or relatively to one another, in terms of a consistent computational analysis of compass directionality, independent of the speaker–observer or of any fixed reference point. This requires thinking of space as bounded by enclosing horizons. Second, perhaps more convincingly for people not given to computational analysis of cognitive systems, we commonly talk about space precisely as if it were a container. We talk of ‘where’ something is ‘located’, saying that it is ‘in’ such and such a part, or even more technically, ‘quadrant’ of space, and so on. Indeed, naïve physical geometry seems to be of the same kind, when we find ourselves almost driven to imagine a universe as empty space that got filled somehow with matter. It is only in modern, relativistically oriented physics and cosmology that we adopt a point-field manner of representing space as essentially a *relation on points*, with distance being derived from the acceleration of particles over *time*. Certainly the ordinary Euclidian plane geometry is container-oriented as commonly taught in the United States. For, whilst there may well be a sort of implicit point-field conceptualisation hidden in Euclid, as in the older English version, where ‘a straight line *lies evenly between* two points’, it is a container view that motivates the revised formulation: ‘a straight line is *the shortest distance between* two points’, and so on. Note that the container conception of space is not called into question if two- or three-dimensional space extends infinitely in its dimensions; it remains correct to say that space ‘exists’ prior to the objects coming to fill it, and this amounts to saying that its boundaries, viz., its extensions or limits, are axioms of the conceptualisation.

With all that said, let us proceed first to some of Herdrich’s material and findings from Samoa. In the course of describing the Samoan linguistic coding of the point-field model we will explicitly show how it is that boundaries, instead of being axiomatic as in the container view of space, are derived theorems on the point-field view. Put starkly, but effectively, *a point field defines space as the topological neighbourhood of a given point*, and boundaries are derived as the adjacency of the closures of pairwise distinct point fields. Thus, any such point field is infinite, save as it ‘comes up against’ the field of a competing initial point, while all other points are understood (‘located’) as in one or other (or indeed both) fields, though each, in its respective if subordinate way, itself establishes a field, and so on recursively.



In a container view of space, any point, P , is defined as located at the intersection of a grid of directional lines relative to boundaries, or edges, say a horizon. points, P, Q, \dots , are therefore in the same space, S .

In a point-field view, any point, P or P' , defines a field extending in all directions indefinitely, and boundaries, as in the case of the dashed line $a-b$, are defined essentially by the symmetrical overlap of adjacent fields. Fields are topological neighbourhoods, and in general every point is in the neighbourhood of every other point. However, only certain points define pragmatically meaningful fields, so that all other points not on a boundary are taken as defining fields properly contained in a principal field, here defined by P and P' . Points in the region of a boundary may be taken as simultaneously in both (all) adjacent fields.

Figure 1: Space as (A) a container, with points defined with regard to boundaries that are axiomatic, and as (B) point-fields, with boundaries derivatively defined as theorems.

2 Review of Samoan data: the point-field system as dominant in Samoa

Earlier analyses of Samoan spatial systems have worked within and from the assumptions of a binary structuralist framework. In his book *Sala'ilua: A Samoan Mystery* Shore (1982) presented an analysis of Samoan spatial systems focusing on the village spatial organisation in terms of binary dualisms. Allen (1993) and Duranti (1994:60) were among the first to describe inconsistencies with Shore's spatial analysis. This was later followed by a re-analysis of the spatial data by Shore (1996), and Herdrich and Clark (1996). It is coming to be recognised that the binary model of the Samoan spatial system is incomplete and that many aspects of Samoan spatial organisation and thinking can be described with a point-field model (Shore refers to it as a 'centre-periphery model' or 'concentric model', while Allen calls it a 'focal point' model). However, it is important to realise that neither Shore nor Allen come anywhere near making explicit the distinctive formal properties of spatial conceptualisation involved, as between point fields and container spaces.

Even with this recognition we find that there is still a tendency in both Shore's (1996:273–276) and Allen's (1993:247) work to try to salvage aspects of the earlier binary structuralist analysis. While Shore and Allen may be correct that a binary analysis cannot be entirely abandoned we will argue here that the point-field model accounts for more Samoan data than either Shore or Allen have recognised.

Shore (1996), for example, in his re-analysis argues that Samoans use two alternative spatial models, the binary structuralist model of space for linear villages, and a centre-periphery or concentric model that is a continuous, 'graded', 'analogue' system for circular villages. We will discuss the issue of two alternative models toward the end of the paper. Here we will turn our attention to the issue of the linguistic representation of the point-field model. In arguing why earlier analyses missed or under-described the presence of the point-field model he argues that,

The use of such graded symbolic forms is appropriate for people who tacitly share the same general perspective, such as members of a common household or village and those whose mutual orientation does not require explicit verbal formulations. (Shore 1996:275)²

And,

While such a concentric schema may be derived from observing variations in Samoan behavior in the village, it is not, linguistically speaking, a well-coded public model for Samoans. (Shore 1996:272)

He furthermore states that,

The less articulate but clearly operative concentric model is more of a 'tacit cultural model' that is acted upon and represented spatially but not linguistically. (Shore 1996:275)

Our data will show that this is not the case, that, in fact, there are numerous linguistic terms that reflect the point-field structure and the consequences of such a system are a matter of day-to-day and even official legal discourse. We believe that earlier analyses projected a binary

² We set aside for now obvious questions such as: why do other societies which have members belonging to common households, villages, and who have a 'mutual orientation' not share the same type of spatial concepts? And, after all, what society does not have members who belong to a common household, members who belong to a common village, and members who have 'mutual orientation'?

structuralist model onto the data leading to an under-description of the point-field conceptual system because it did not easily fit within the binary paradigm to which investigators of that theoretical persuasion were attuned.

The point-field model can be represented as a point with a series of vectors (possibly infinitely many) radiating outward (Allen 1993; Herdrich & Clark 1996). The field extends out indefinitely and 'boundaries' within such a system are not axiomatic but are derived as relationships between points. *The 'space between' points is always in contention and is therefore a focus of attention.* We find that point-field model conceptions (points, radiating vectors, [arms or rays], and the concept of the 'space between') are not merely derived from observing variations in Samoan behaviour but are highly lexicalised in the Samoan language.

2.1 *mata* 'Point'

There is an emphasis in the Samoan lexicon on describing things and boundaries in space in terms of a point or *mata*. In addition to 'point' *mata* also means 'eye', 'face', 'boundary or edge', 'cutting edge', 'blade', 'spring (of water)', 'mesh in a net', 'glasses', a name given to certain styles of communal fishing, and the most prominent point of an abscess or boil (Pratt 1893:212; Milner 1966:134).

The use of the term *mata* for eye can literally mean an eye, but it is also commonly used as a way of talking about points. For instance, Herdrich and Clark (1996) in showing that the Samoan village can be described in terms of a point and vectors, quote Samoan High Talking Chief Tuaolo Lemoe of Pago Pago who explicitly stated that the *malae* or village centre is conceived of starting out from an 'eye' or point.

Next, consider a series of compound words that use the term *mata*. First, Milner (1966:136) defines the term *matāgāluega* as a section or department. We generally conceive of sections or departments as well-bounded containers, but for Samoans it is literally a *mata* 'point' of work '*galuega*', that is, not a place *in* which work is done, but a point *from* which work emanates. Various government offices and Catholic parishes in Samoa are referred to as *matāgāluega*. For example, there is the *Matāgāluega Leoleo* 'police department', and *Matāgāluega o Elele, Fuagāfanua*,³ *ma Si'osi'omaga* 'Department of Land, Survey, and the Environment'.⁴ Related to this, is the English phrase 'quarter of the wind', this is normally conceived as a well-bounded segment of space, but in Samoan the term is *matāmatagi* or point of the *matagi* 'wind'.⁵

³ A (land) survey is, of course, a matter of establishing boundaries by shooting angles from points. The English word 'survey' emphasises the boundaries, and the angles shot, and has the sense of 'to examine or look at in a comprehensive way' (Morris 1976:1295). The Samoan term *fuagāfanua* literally means *fuaga* (to measure) the *fanua* (land). *Fuaga* is derived from *fua* which in addition to meaning 'to measure' also means 'to produce fruit, to proceed from, to originate, and to begin' (Pratt 1893:163). As a noun it refers to fruit, flowers, seeds, eggs, and spawn of fish (Pratt 1893:163). So the emphasis for the Samoan term is on things that are essentially *points* of origin.

⁴ Supporting evidence for the point concept being used in this way comes from the term *gātu* which Pratt (1893:171) defines as a verb meaning 'to make headquarters, to come to one point from different places'.

⁵ The close relationship between points and the term *fua* is again apparent when one notes that a synonym for *matāmatagi* is *fuamatagi* which is defined by Pratt (1893:164) as 'to begin or come from whence the wind comes, to sail before the wind'.

Second, an extended family under the head ship of a *matai* 'chief' is a *matā'āiga*. Thus, it appears that both the terms for chief (*matai*) and extended family (*matā'āiga*) are conceptually related to points (Milner 1966:136–137). In addition, one's obligation, duty, responsibility, or proper share of work is also conceived of as a point being referred to as *matāfai* (Milner 1966:136). And there is the term, *mataitū*, defined by Milner (1966:137) as a verb meaning to 'head, direct, govern'.

Furthermore, as noted above the term *mata* can mean boundary or edge, and one finds various terms such as *matāvao*—edge or boundary of a plantation, *matāfaga*—beach, *matāutu*—a point of land running out into the lagoon, and *matāmutia*—a taro plantation by the side of a house. The term *vao* is 'the bush', the term *faga* is 'bay', *utu* is 'a ditch' and *mutia* is 'a grassy area'. Boundaries are thus conceived not as absolute lines in and of themselves, but rather as points relative to other domains, such as the bush or bay—'points of intersection of domains/fields'.

Space does not warrant an analysis of all the compound terms based on *mata*, but see Appendix A.

2.2 *moa* 'Centre point'

In addition to the term *mata* for point, there is a specific word, *moa*, which refers to a central point or a point in the middle of something. For example, it has been said that the meaning of the word Samoa is 'sacred centre'. In addition, one can speak of *moa o le auala* 'the centre of the road', *moa o le potu* 'the centre of the room', *moa o le fale* 'the centre of the house', *moa o le potumoe* 'the centre of the bedroom', *moa o le avanoa* 'the centre of the space'. For instance, if one speaks of a blank piece of paper one says that it has *avanoa* or 'space'. One can then say something like *Fa'amolemole, aumai se peni fai se fa'ailoga i le moa o le avanoa*. 'Please, take a pencil and make a mark in the centre of the space.'

The word, *moa*, can also refer to a central point located at the solar plexus on one's body. Related to this is the idea argued by Forsyth that Samoan *Taulāsea* and *Fofā* [different classes of Samoan traditional doctors] conceive of the human body as having a series of 'sacred' points located at intervals running vertically along the centre of the body (Forsyth 1983:181, 288, 350).

2.3 *maga* 'The intersecting point'

Milner (1966:120) sometimes glosses *maga* as the 'space between' two intersecting lines, for example, *magālima* as the 'spaces between the fingers', but that gloss is slightly inaccurate. Instead, based on consultation with a large number of Samoans and some of Milner's other uses of the term, we find that it is more accurate to define it as the point where two lines intersect. For example, *māgafā* is the 'fork in the road where two roads intersect' (Milner 1966:120). If one has a point and radiating vectors, then given the intersection of any two of these vectors one has a *maga*.

A relatively large number of terms include *maga* to describe intersections that English speakers usually ignore. By way of example there is *magālima* 'the point at the intersect of two fingers', *magāvae* 'the point at the intersection of two toes', *māgamaga* 'having many forks', *magāmuli* 'point between the buttocks', *māgavai* 'tributary or branching stream'. The

idea of the 'space between' should be reserved for the word *vā* which we will discuss below in detail.

2.4 'ave 'Ray, tentacle, arm'

As argued by Allen (1993:267) and Herdrich and Clark (1996) a point-field model can be represented by a point with vectors or rays. The term '*ave*' is defined by Milner (1966:39) as being 'a ray such as a sunbeam or the tentacle on an octopus'. It can also be loosely used to mean an 'arm' of something. The term '*aveau*' means 'starfish' and *fetū* or 'stars' are also said to have '*ave*'. The term can be applied to virtually any ray or arm-like vector projecting from some central point or region.

In Samoa one finds that images and objects with rays are very popular as design motifs. Designs using patterns of rays and star-like images dominate Samoan fabrics, *tatau* and *malu* 'male and female tattoos', *siapo* 'tapa cloth', and stonework and stained glass in churches. Churches are frequently named after stars with explicit emphasis on their radiance. Examples include churches with names such as *Fetā o le Moana* 'Star of the Ocean', *Fetā Ao Pupula* 'Bright Morning Star', and '*Ave o le Fetā Ao* 'Ray of the Morning Star'.⁶

Turning to the human body, Samoans believe that there is an organ located at a point along the centre line of the body between the *moa* and navel known as the *to'ala* that is believed to be a 'life source' (McPherson & McPherson 1990:168–169). It is described as being like a 'closed fist and is made of an unspecified number of tentacle-like fingers, '*ave* ... ' and it is also likened to a '*fe'e*' or 'octopus' (McPherson & McPherson 1990:169). McPherson and McPherson (1990:169) tell us that, 'In its correct position it ensures well being. Illness occurs when, usually after an excess of certain sorts of activity, it opens and, using its tentacles like an octopus, moves about the body'. Health is restored when it is returned to normal position, usually through massage (McPherson & McPherson 1990:169; see also Cox 1997:40–41).

As noted above, boils are said to have *mata*, but this is not a complete description of their structure. In addition to an eye or point they are also conceived of as having rays or '*ave*'.

⁶ In addition to the explicit sense of 'ray' for the word '*ave*', Milner (1966:38–39) includes two other base definitions along with numerous (n=19) derived terms, compounds words, phrases, and proverbial expressions that use '*ave*' as a root. The underlying sense of these terms includes the structure of a ray; a directional path or line pointing from one object/state/stage, conceived of as a point, to another point. Space only permits five examples as follows:

Firstly, '*ave*' has the sense of to 'give', or to 'take' something to someone. So, one could say,

Peti, 'ave le meaai ia Tavita. ----> Betty, take the food to David.

If Betty and David are points, then the path from Betty to David can be conceived of as a ray.

Secondly, '*ave*' has the sense of 'driving' something.

'Ave le ta'avale. ----> Drive the car.

If one is driving something, one is going from one point to another along a path which, again, can be thought of as a ray.

Thirdly, '*ave*' has the sense of 'messenger'. And a messenger is someone who takes something from one person to another and has to travel a path which, again, can be conceived of as a ray.

Fourthly, '*ave*' has the sense of 'spreading' like rumours spreading. One can imagine multiple rays spreading from one point to many other points, and so on.

Fifthly, '*ave*' has the sense of 'becoming' (or growth). This is found in the terms meaning 'becoming', a 'stage in a baby's growth', and the sense of 'a fruit-bearing stalk of a bread-fruit tree'. Here, if one has an initial point, then the rays radiating from it represent growth or becoming over time as they extend out.

McPherson and McPherson (1990:229) tell us that the treatment for certain types of boils is to massage ‘from the periphery toward the centre ... to break the ‘*ave*, or “tentacles”, which hold the eye in place and prevent drainage’.

2.5 *vā* ‘The space between’

There is a well-known phrase in Samoan, *Teu le vā*, which can be translated as ‘to tend, arrange, or decorate the relationship or the space between [people]’ (Shore 1977:161, 1982:136; Duranti 1981:29–30, 1997:343, 345; Maego 1998:81–84). We believe that the concept of *vā* or ‘the space between’ is a direct consequence of having a spatial system based on points and their associated fields. This is because social, political, and land tenure boundaries are derived from relationships between points rather than from axiomatically defined boundaries. Relationships between people (conceived as points) are, if not well tended, subject to potential change. Hence boundaries in Samoa have a built-in and recognised potential to shift relatively frequently. It is recognised that one has to take care to *Teu le vā* or cultivate relationships or ‘the space between’ carefully for this is what will ultimately determine where the boundaries in the ‘space between’ will fall.⁷

Like the concept for ‘point’, the idea of ‘the space between’ is a highly lexicalised concept. As Milner (1966:310) tells us,

words beginning with *vāi-* or *vai-* appear to be compound, consisting of *vā* followed by the particle *i* which is itself followed by another base. They usually denote an interval or intervening space between two places or events or a feature of such interval.

A few examples from Milner (1966:310) and our Samoan consultants are words like *vāi’aiga* ‘refreshment served between two meals’, *vāitalo* ‘the interval between taro plants’, *vāivao* ‘bush, forest separating two villages’, *vāinu’u* ‘the space between two villages’, *vānui* ‘the interval between coconut trees’, *vāilima* ‘the space between fingers’, *vāivae* ‘the space between legs or toes’. As with *mata*, space does not permit a full analysis of all the *vā* terms (see Appendix B for more).

The consequence of a point-field system and the emphasis on maintaining space or relationships between points is far-reaching. In Samoa there is constant awareness of one’s place in space relative to others, see Duranti (1997). And, for example, when one is provided an opportunity to speak in any kind of a public forum one of the first things that is usually said by a speaker is ‘*Fa’afetai mo le avanoa*’, literally ‘thank you for the space’ (again, the space in question being conceived of as a gap or interval (Milner 1966:37)).

3 Boundaries

In addition, land boundaries in Samoa are frequently found to be overlapping and are almost constantly disputed. The boundaries derived from relationships that are agreed to are seen as temporary and likely to change relative to the changing relationship. For instance, consider the American Samoa National Park lease which was written by a Samoan who is

⁷ Considering that Mainland Southeast Asia makes much use of a point-field conceptualisation of space, it is worth noting the way Burmese spaces ‘between’. In English, it seems, for instance, that a ‘valley’ is a space ‘in its own right’, in fact often defined by a stream running down along it, *bounded*, of course, by hills. But in Burmese, a valley is just *taung-ca.*, ‘a separation (*ca.*, “to fall between”) of mountains’.

well aware of how Samoans view boundaries. The lease was negotiated over a number of years with five Samoan village councils. The park has internal boundaries that are to be used for deciding how the money is divided among the members of the villages participating in the park. With regard to these boundaries the lease explicitly says,

Payment of rent from the trust account shall be made only to those landowners who: a. reach agreement (solely for the purposes of the National Park) with neighboring landowners as to the boundaries of their land within the park. (US. DOI/NPS 1997:272–73)

Note that the boundaries are not set by the National Park, or by the village, and there is no reference to officially registered land parcels designated in a plat book. Rather, neighbours have to agree on what are explicitly temporary boundaries. It is probably no accident that besides *mata* another Samoan word for boundary, *tuā'oi*, also means 'neighbour'. In addition, the one other term for boundary is *tapula'a*, made up of *tapu*, 'to forbid', and *la'a*, 'to step'. But *tapu* has a temporary sense to it in that traditional *tapu* or taboos were not considered to be permanent (Shore 1989:154–156).

And, in describing Samoan attitudes toward moral behaviour, Shore makes similar observations concerning boundaries. Shore (1982:118) reports that, 'In a well ordered village, life is *maopoopo* (well ordered), and the lives of its residents are *puipui* (protected or literally "walled in") by customary institutions'. But these laws are not to be seen as axiomatic boundaries. Shore (1982:118) says that 'No boundary is, however, intended to provide an absolute limit on behavior'. What is primary is the idea of the world as an indefinite field; Shore (1982:119) states that,

Laws and regulations function in Samoan belief as the dignified outer limits or constraints on behavior, giving a moral shape to a world that is otherwise *sa'oloto* (free or unbound).

There is further evidence for the temporary nature of boundaries and their traditional dependence on the relationships between people. Firstly, when the US Naval Administration in American Samoa created the Registrar's Office in 1900, making official surveying and registering of land possible, few Samoans were interested because it was recognised that fixing the boundaries would take out the flexibility in the system (Charles Ala'ilima pers. comm.). Traditionally boundaries were (and to some extent still are) denoted by rows of *nui* [*Cocos nucifera*], *poumuli*, [*Securinega flexuosa*], (sometimes explicitly marked *fa'ailoga* with an 'x'), or with rock walls that frequently amount to little more than a single course high line of rocks. Traditional boundaries involve a relatively low investment of energy and they do not in and of themselves physically constrain access to and movement between parcels of land.

Today, however, due to a legal precedence (recognising adverse possession of land) made in the American Samoan western-style land court, and the return of off-island educated Samoans with individualistic values, the surveying and registration of unregistered family communal land has become much more popular (Stover 1990, 1999). In addition, in American Samoa people are beginning to construct very substantial chain link fences and rock walls to fix boundaries.

But this building of fences and walls and registering of land is highly controversial and contentious. It has created conflict in villages and is a matter of explicit discussion in terms of how this does away with flexibility and negotiation in the relationships of neighbours. Herdrich was present at a series of lectures (and ensuing discussions) given by Samoan

scholar Malama Meleisea between November 20 and 22, 1997 at the American Samoa Community College. We cannot present the entire discussion here, but we will relate an incident a Samoan student told to the class, and two important comments made by Meleisea at his November 21, 1997 lecture. First, the student related the following,

We had a problem within our village. One high chief wanted to have his land measured, but, let's just say that my family land is a great big part of the village and they didn't want us to survey it because this is gonna be labeling the land as our family land and the village land. And they, instead of telling us straight, or informing our high chief of what is gonna be done, they just met with themselves. And our high chief didn't even tell them that we were gonna survey the land for this reason or that reason. They just noticed from a leak within our family, or kinda like information leaked out. The village kinda got together and had a meeting without our representation. It's like the village council is like the house of representatives is in the government, having kinda like having each family represented. And without our family being represented they made a choice of stopping the survey and tried to kick out or replace our high chief with somebody else. That should not be their concern.

Meleisea responded,

We have a similar case in our family. The family is trying to put a huge fence around traditional family lands. Some of the chiefs are against it. You can't do that...You cannot fence traditional land the way you have it, particularly in the middle of the village. Because when you do it, it is very symbolic of all other things. If everybody does it the village becomes a suburb.

And,

There will always be these feelings about land. We're not just talking about geographical space. It's the *Vā o 'oe ma a'u*. [The relationships between you and me.] It's these relationships. They are very complicated. They are historical, psychological, geographical, based on gender, based on all sorts of things. So the single thing of putting a fence there has tremendous implications on the Samoan concept of space. *Vā tapuia*, [the relationship between prohibitions or taboos] *Vā fa'aaloalo*, [the relationship of respect] *Vā o le tuagane ma le tuafafine*, [the relationship between brother and sister] *O le vā o le mea lea ma le mea lea* [the relationship between this thing and this thing]. You can always argue that Samoans will insist on that, on that concept of *vā*, *teu le vā*. Everybody exists because they know what their relationship is to that person and this person and that other person. And when you put, bang, right in the middle of the village, a fence, all those relationships are questioned.

Another example has to do with a meeting Herdrich had with his landlord who happens to be a High Chief. The meeting took place at the High Chief's house which is on a dirt road. Herdrich noticed that work had begun on levelling it, and new cinders had been put down. Herdrich mentioned this to the High Chief saying, 'looks like they are finally improving your road'. He said,

yes, they are, and they are going to tar seal it as well, but they have not contacted me and asked my permission. I'm not happy about that; part of the road is on my land, my boundary goes right down the centre of the road [*moa o le auala*]. They are going to have to compensate me because once they tar seal the road that means I will not be able to change the boundary.

In other words, the way he views it is that the *moa o le auala* is one of his boundaries, but it is just a dirt road and as long as it remains so it is possible to change the location of the road and *de facto* change the boundary of his land. But if the road is improved and made

permanent, so is his boundary, not a desirable thing from the Samoan point of view, because it cuts out (or at least makes more difficult) the possibility of expanding one's boundaries at a later date.

4 Resolution and conclusions

We believe we have shown quite clearly that the point-field model of spatial representation is, contrary to Shore's earlier statements, a highly lexicalised system. We are now in a position to discuss the issue of alternative models, in particular the point-field model vs. the binary model that uses such terms as 'front' and 'back'. First, it is important to note that in *any* language front/back have similar equivocation built in. Take English: in one view the future is 'in front' of us [still to come]; in the opposed but equally colloquial view, the same future is coming on 'behind us' in the sense that it is 'yet to come' whilst the past has already gone on 'ahead'. The first view we can call (rather provisionally) a sort of Static or Placement view, whilst the second is a sort of dynamic or movement view (see Lehman forthcoming and its appendices). More correctly stated, however, let us call the first view that in which 'I' (speaker or reference person or object) moves *through* temporal space; the second has the passage of *events* move across the layout space of persons, objects and so on, more correctly, through the aspectual state space. On this construction, the two views or perspectives are strictly complementary, in fact necessarily entail one another!

For instance, it could be the case that on the one hand, so to speak, 'front' implicates the initial position, viz., the centre, or the focus for a layout of space, say of objects on a cosmological basis or, equivalently, a basis of cosmic priorities. On the other view (a pragmatic or practical view), of course, one proceeds from centre towards 'the front' on the temporal, and to 'the front' on the other, or cosmological, or the aspectual state space view.

In Shore (1996:ch.11) he concerns himself with Samoan spatial concepts and the spatial layout of the village. He comes to the realisation that the Lévi-Straussian model he used in his earlier work (1982) has some problems. Basically, he resolves that a point-field model is incompatible with the Lévi-Straussian binary model. That is, if the point-field model holds then the beach, which Shore says is the front of the village, is actually in the back of the high status houses. Shore's solution to this problem is to say that the Samoans have two spatial models: the point-field model and the Lévi-Straussian binary front/back model. He provides the reader with two schematic drawings of the village. One shows houses around the *malae*, with status increasing as one comes to the *malae*, and the other illustrates houses in a linear pattern along either side of the road, arranged in a seaward/inland, front/back manner.

We have no theoretical objection to positing that Samoans hold two models of space, but this only gets Shore so far. Firstly, Shore posits *tai* 'seaward' and *uta* 'inland' as being an essential binary contrast Samoans linguistically invoke in representing spatial relationships. In addition, as pointed out earlier, he states that the gradedness of a concentric model (approximately our point-field model) is not linguistically represented. However, it turns out that there are Samoan lexical items that represent a gradedness of structure for *tai* and *uta*. Milner (1966:77, 78) contains the following (still commonly used) words:

gātai lb. (locative base). I ~ : A little distance toward the sea.

gātai lb. I ~ : Further towards the sea.

gā'uta lb. I ~ : A little (distance) inland.

gā'utā lb. I ~ : Further inland.

The second difficulty for Shore's account comes about because his drawing of the linear village is misleading in that he only shows the guesthouses (high status houses) and fails to show what is behind them (in the empirical world). Moreover, what is behind them towards the ocean? Lower status structures such as cookhouses, bathrooms and the like are found there (which his schematic sketch does not show), just as the point-field model predicts. His positing two models in this way does not work.

However, he is correct in stating that Samoans will tell you that a village (or more instructively, the *malae*) has a front and a back and that the front often corresponds to the ocean and the back to the mountains. So what is happening? Samoans do have two internal spatial models for the village layout—point field and front/back—but they are integrated and not alternative models. With the point-field model, front/back can be used to talk about the fronts of houses toward the *malae* and backs of houses and their out-buildings toward the mountain or sea, depending on where one's house is. But Samoans also conceive of the same *malae* as having a front and a back with the sea to the front and mountains to the back. One Samoan *tulāfale* 'high talking chief' in discussing the structure of the *malae* with a colleague of ours, explicitly made an analogy between the Samoan village *fono* 'village council which takes place in a guest house on the *malae*' and the *malae* (Micah Van der Ryn pers. comm.). The houses on the *malae* were likened to the posts in the *fono*. So, as the *tulāfale* 'high talking chiefs' sit at the posts at the front of the *fono* house facing the centre of the house with their backs toward the *malae*, so the *tulāfale* houses are placed at the front of the *malae* 'toward the sea' facing the *malae*'s centre with their backs toward the sea.⁸ So, it is not really a matter of two separate models but rather that the ideas of front and back are integrated into the point-field model. Whether an area is referred to as 'front' or 'back' depends on the perspective one takes. If one takes the perspective of the *malae*, it has a front towards the sea. But if one looks at the houses that surround the *malae*, the direction toward the sea is to the 'back' in keeping with the orientation of the houses facing to the centre of the *malae*.

⁸ We know of one village—Vailoatai on Tutuila island—where the *malae* is actually arranged like the *fono*:

The high talking chiefs' houses are in the front, the high chiefs' houses are opposite each other on the sides and lower status *matai* have their houses on the back side of the *malae* on the inland side. We also note that not all villages reflect this ideal, as we know of other villages where the high chiefs' guest fales are toward the sea, but even in these villages that area of the *malae* is referred to as 'the front'. These variations in the actual placement of chiefs' houses may be due to individual histories and pragmatics of different villages, but do not appear to change the conception that the *malae* has a front and a back. Finally, it should also be noted that the front of a *malae* in an inland village (or even a coastal village) may not be towards the sea and that instead a modern inland road may considered the 'front' of a village's *malae*.

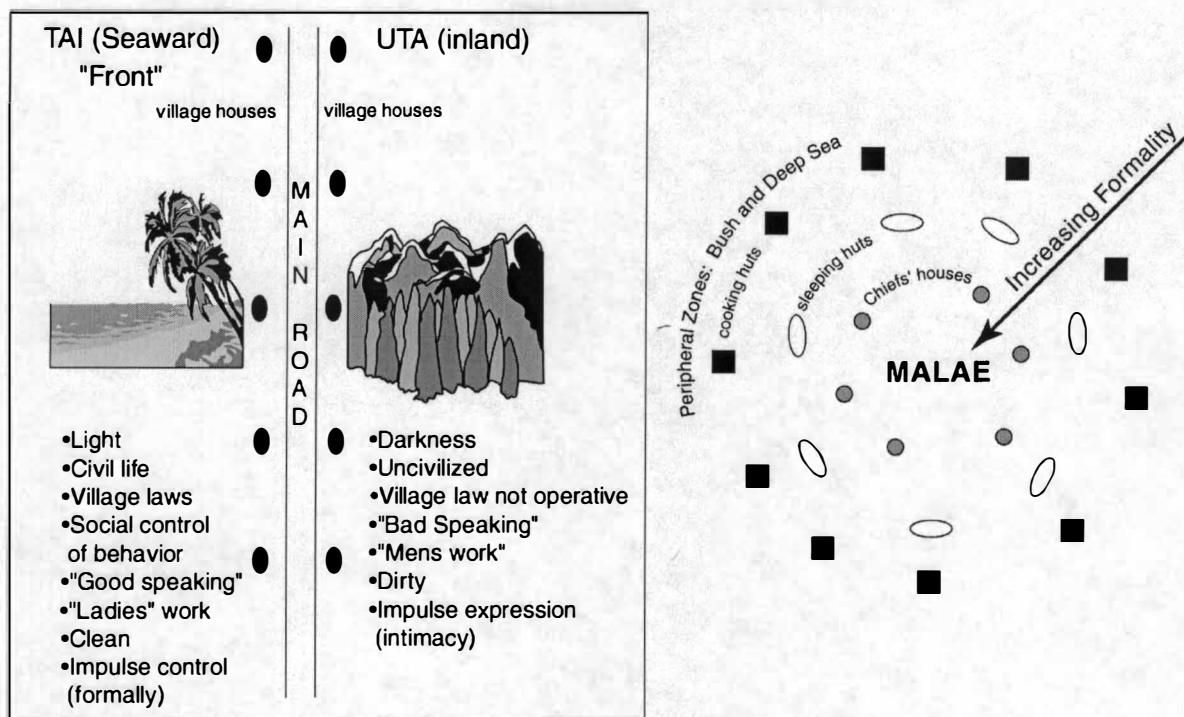


Figure 2: Shore's figures 11.1 and 11.2, showing his model of Samoan dual representation (1996:269, 271)

It seems to us that, if the above is right, then we can argue effectively that indeed the point-field model is after all *consistently* dominant culturally because now Shore's data do not require, in the manner of the so-called Lévi-Straussian model, anything like a container view of lived-in space. Or, at most, it is strictly subordinated to the point-field view just where pragmatics is imposed *upon* the cosmological view.

We have one final observation. Regarding what Giovanni Bennardo has called, in his paper in this volume, the 'radial' system of orientation space, it should now be clear that it remains necessary to distinguish fundamentally between two forms of radial systems of orientation; moreover, a system of orientation is not necessarily a system of spatial construction.

On the one hand there is one grounded in the container construction of space. It takes as its focus either some person (by default, the speaker) or some landmark, and it places some object or person relatively with respect to the former, but in terms of invariant compass directions: North, South, East, or West, say, of the speaker or the reference object.

On the other hand there is one grounded in the point-field construction. The radial system of orientation grounded in the point-field conception of space itself, places some object only relatively with respect to the reference object or person. For example, an object is placed to the right or left, or in front or back of a reference person, or a reference object *just in case the latter is independently conceived of as having an inherent front / back* (see Bennardo forthcoming, and his references to various papers by Levinson, having reference to radial representation of spatial orientation in Levinson's 'frames-of-reference' theory; also Shore's discussion at 1996:274).

As a marginal consideration in the present context (hardly marginal in a context of considering spatial cognition in general as embedded in human cognitive capacities), it is just possible that the container orientation is in some sense more basic, or say, the default

conceptualisation of space for human cognition. The argument is not particularly strong from the standpoint of our current state of knowledge, but there are nevertheless two possible lines of evidence for this suggestion. First, it seems to be the case that if any culture or language has only one of the two constructions (point-field, container), it will be the latter. An example of this is for (some, many?) Australian Aboriginal systems (see Levinson 1992 and discussion in Bennardo and Lehman forthcoming), if only because the language provides no ready-made means for expressing the point-field method of orientation. It is interesting that such systems are found in societies until recently isolated from the rest of the world and with only foraging economies and low-level socio-political organisation. It is, however, probably beside the point, if only because it is a well-known error to think of these societies as representing a relatively unchanged instance of a 'primordial' human condition.

Second, as was mentioned earlier, even in so-called modern, 'Western' cultures, there is some indication that the default representation, that of naïve physical geometry, is the container construction. Similarly, even where, as in Samoa and Mainland Southeast Asia, the basic cosmological conceptualisation of space seems to be the point-field construction, the container conceptualisation continues to be operative, more or less by default, where the pragmatics of day-to-day activity is concerned.

Finally, let us return very summarily to our tentative claims at the beginning of this paper concerning Oceania in general and the putative connection between (Austronesian-speaking) Oceania and the Mainland of Southeast Asia. More particularly, we must here and now address the obvious question of how we can appear to make claims about this larger sphere while almost exclusively analysing ethnographic and linguistic materials from Samoa only.

Taking this last question first, we showed, by selected references, that there is at least intriguing evidence from elsewhere in Oceania of a point-field spatial conceptualisation. The evidence is Polynesian as so far cited, although Melanesia is not without sources of evidence as well (cf. Ross 1973:111ff.). It seems to us that the way Micronesians are reported to conceptualise space for purposes of navigation (especially in the work of Hutchins 1995:65–93; see also Gladwin 1970), has to be a function, in part at least, of a point-field view. This Micronesian navigational conceptualisation seems to visualise the surrounding space through which the vessel is actually moving as rather *a field shifting about the vessel taken as a defining point* instead of thinking of the vessel as moving with respect to landmarks or other designated points against the orienting background of a fixed horizon (a containing boundary, in other words). Still, we have only dealt in any detail whatsoever with Samoa. However, one must start with concrete and systematic detail from some particular cultural system, and little if any attention has been paid in most of the Oceanic literature to questions of spatiality in the cognitive sense, and so one must take one's materials for analysis from wherever such attention has been prominently paid. That means Samoa.

Given the fact that, after all, Samoa certainly *is* a fairly representative Polynesian society and culture, this is a reasonably sensible starting point; all the more so when one places it within the larger context from which the other snippets of suggestive evidence has been cited. Moreover, one cannot forget the aforementioned argument that there is a clear-cut culture-historical connection between Austronesian Oceania and Mainland Southeast Asia, more especially the Tai-speaking world. This Tai-speaking world is one whose notions of space, especially for the purposes of fundamental political and social ordering is centred about the notion of the *mɯang* a 'domain', at any level, defined by its 'exemplary centre' (see Lehman 1980 and references therein). Whether that relationship is one of genetic linguistic relationship or not (the Austro-Tai hypothesis), it remains pretty uncontroversial that the

ultimate Proto Austronesians were originally found on the Mainland of what is today South Central China in at least close juxtaposition with Proto Tai communities (cf. Bellwood 1992:111ff.). And then in view of the fact that the major employment of point-field type spatiality is restricted while the default construction of space is the container construction, it is at least increasingly suggestive of the hypothesis that the point-field conceptualisation of spatiality that seems at very least sporadically in use throughout much of Oceania may have deep Austronesian (say Austro–Tai) culture-historical roots.

Of course, this is only a working hypothesis being put forward here tentatively for purposes of, one hopes, stimulating further investigation by ourselves and others more widely. But the kind of systematic work that such investigation requires simply has not yet been done—save, we claim, by ourselves with respect to Samoa (and certainly to a considerable extent by Bennardo for Tonga), and so here is where we are bound to start, if only as an example showing what might be looked at elsewhere in Oceania.

Appendix A: Further uses of *mata* in lexicalised compound words in Samoan

<i>fa'amata'ese'ese</i> v.	'(of opinions) Point in different directions, be divided' (Milner 1966:134).
<i>mataafi</i> n.	'Groove along which the pointed stick (used in the "fire-plough" method of making fire) is run to and fro' (Milner 1966:134). 'A large fire to burn off trees in clearing a forest' (Pratt 1893:212).
<i>matāfala</i> n.	'The edge of the end of the mat in the game of <i>lafoga tupe</i> ' (Pratt 1893:214).
<i>matāmeli</i> n.	'Drop of honey' (Milner 1966:136).
<i>matāmua</i> n.	'The title page of a book' and 'a person who wants to be first in something' (Pratt 1893:215).
<i>matānofo</i> n.	'A row of sitters' (Pratt 1893:215).
<i>matāsele</i> n.	'Noose' (Milner 1966:136; see also Pratt 1893:216).
<i>matāsusu</i> n.	'Nipple, teat' (Milner 1966:136; see also Pratt 1893:216).
<i>matātalo</i> n.	'Crown of taro plant (when cut off for planting)' (Milner 1966:136).
<i>matātuai</i> n.	'Toothed grating tool' (usually used to grate coconut) (Milner 1966:136).
<i>matāua</i> n.	'Raindrop' (Milner 1966:136; see also Pratt 1893:213).
<i>matā'upega</i> n.	'Mesh (of a net)' (Milner 1966:136; see also Pratt 1893:213).
<i>matā'upu</i> n.	'Subject, theme' (Milner 1966:136).
<i>matāvaga</i> adv.	'Separately' <i>Na ia tu'u ~ mea 'uma</i> : 'He put all the things ~ (i.e. in their proper place).' (Milner 1966:136).
<i>matāvana</i> n.	'Point of a pump drill' (Milner 1966:136; see also Pratt 1893:217).

- matāvai* n. 'Spring, source' (Milner 1966:136).
matāvili n. 'Bit (fixed on the end of a pumpdrill or a brace)' (Milner 1966:136).

Appendix B: Further uses of *vā* in lexicalised compound words in Samoan

- vāi'a'ai* n. 'Neighbourhood' (Milner 1966:310).
vāiania n. 'A fissure in the reef underwater' (Pratt 1893:332; see also Milner 1966:310–11).
vāiaso n. 'Week (i.e. interval between two Sundays)' (Milner 1966:310).
vāi'aso n. 'Space interval between two rafters' (Milner 1966:310).
vāifale n. 'Relationship between two neighbours' (also, simply the space between two houses) (Milner 1966:310).
vāiitula n. 'Period, time of day' [i.e. the interval between hours] (Milner 1966:310).
vāimasina n. 'Season' [i.e. the interval between months] (Milner 1966:310).
vāita n. 'Half hour' [i.e. the interval between two hours] (Milner 1966:310).
vāitaimi n. 'Interval, period' [i.e. the interval between time] (Milner 1966:310).

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Section Three

‘Space and culture’

9 *Space and its role in social stratification in Pohnpei, Micronesia*

ELIZABETH KEATING

1 Introduction¹

Space is an integral part of social life and social reproduction, made meaningful through ‘practice’ (Bourdieu 1973). Spatial concepts are used as resources in representing ideas about time, music, mathematics, emotions, and social structure including kinship (Lakoff & Johnson 1980; Levinson 1992). This article examines the role of space in formulating relationships of social hierarchy in Pohnpei, Micronesia, and how the idea of social inequality, which is not intrinsically spatial, is expressed through physical space and linked to spatial metaphors in language. Pohnpeian is rich in linguistic resources which construct and interpret stratified space as well as conditioning activities and relations within those spaces.

Social activities shape local understandings and conceptions about space (see for example, Hanks 1990; Choi & Bowerman 1991; Brown & Levinson 1993; Duranti 1994; Senft 1997). The significance of a particular location in space derives from processes which link it to or separate it from other locations (Women and Geography Study Group 1997:6). As social asymmetries are interpreted through physical space, they are situated within a habitualised, historical practice. This paper discusses how horizontal and vertical relations are organised to reflect social relationships between individuals, and how hierarchical structures of authority or privilege are communicated directly through the language and forms of spatial organisation. Bilateral relations and vertical relations are zones of difference, spaces of separation in Pohnpei.

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2 Ethnographic background²

Pohnpei is an island nation in Micronesia, part of the Federated States of Micronesia, with a population of approximately 30,000. The island is divided into five chiefdoms which are united under a form of democratic government. The two forms of governance, democracy and chiefdom, coexist coherently, with different and overlapping spheres of influence in the daily life of Pohnpeians. Another dual set of complementary governance structures exists within the traditional polity, one headed by the Paramount Chief and Paramount Chieftess and another by the Secondary Chief and Secondary Chieftess. These stratified 'bureaucracies' encompass nearly every adult on the island, and nearly every adult has a particular position of authority and responsibility in the hierarchy (instantiated by a particular title). Many of these titles were originally priestly titles (Mauricio 1993), and titles have proliferated as they have been secularised. Women hold important positions throughout the hierarchy, though their title is in most cases dependent on their spouse's (Kihleng 1996), and if their husband dies, they lose their title and status. The political relationships instantiated through titles are constructed spatially through seating arrangements in the community feast-house, linguistically through language use, and through food distribution practices (see Garvin & Reisenberg 1952; Shimizu 1982; Keating 1997, 1998 for more discussion of these aspects). In most of my fieldwork on Pohnpei, I have lived in the chiefdom of Madolenihmw. In this paper I will be using data collected during fieldwork periods in 1990, 1991, 1992–1993, and 1995. Some of the data is from video recorded interactions of spontaneous activities in Pohnpeian daily life, other data is from video recorded elicitation tasks for the purpose of ascertaining information about spatial descriptions.³

Pohnpeian is an Austronesian language, belonging to the Micronesian subgroup (for a more complete description see Rehg 1981).

3 Space and social reproduction

Concepts fundamental to human thinking are organised in terms of spatial metaphors such as up–down, in–out, front–back, deep–shallow, central–peripheral (Lakoff & Johnson 1980:17; Brown & Levinson 1993). Ways of seeing these relationships or 'visual ideolog[ies]' (Cosgrove 1985:47), however, are culturally produced. We move in space that has been shaped by others, that has history as well as unrealised possibilities (Duranti 1997:322). Nevertheless there appear to be some ways of seeing vertical relations that are at least partly shared by more than one society. A common use of up and down, for example, is to indicate superior v. inferior social standing. In the 'naive model of physics that underlies superiority' (Frawley 1992:266) lower objects sustain and support higher objects. A semantic relationship between the objects often suggests contact between the two (Frawley 1992:266). Sometimes an expression for superiority implies 'covering' (Bennett 1975; Brugman 1981).

² This description is necessarily brief. For more on Pohnpei see Garvin and Reisenberg (1952), Reisenberg (1968), Petersen (1982), Shimizu (1982), Falgout (1984), Mauricio (1993), Kihleng (1996), Pinsker (1997), Keating (1998).

³ This latter data is part of a larger study by the Cognitive Anthropology Research Group at the Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands, looking at the influence of language on cognition. See for example Levinson (1992), Brown and Levinson (1993), Danziger (1993), Pederson (1994), Pederson and Roelofs (1995), Wilkins and Hill (1995), Senft (1997).

In Pohnpei an up–down spatial relation is a resource for delineating status between individuals, groups of individuals, and communities or locales.

The notions of superiority and inferiority are not only analogous to up and down in Pohnpei, but to the front/back axis in a plane parallel to the horizon. Front v. back is a key marker for status in other Pacific societies (see Duranti 1981, 1992, 1994 for Samoa; Toren 1990 for Fiji; Hoem 1993 for Tokelau). The front/back relation is connected to an up/down relation in Pohnpei by analogy with body parts. The cardinal points for east and west are hierarchically realised in the terms for east ‘side of the face’ (*palimese*) and west ‘side of the tail or end’ (*palikapi*). East is described as having a vertically superior relation to west. The island is volcanic in origin, with a central mountain peak or peaks, and flatter land along the circular shore. To move inward is described with the morpheme *-long*, to move outward as *-iei*. The symbolic elevation of the east side is reflected in descriptions of movement throughout the island. Going to the west side of the island is referred to as ‘going down’ *koh-di-la* (‘go-down-there’) whereas travel to the east is referred to as ‘going up’ *koh-da-la* (‘go-up-there’). Most travel from one side of the island to the other is actually undertaken around the island at the same height near sea level. Dahl (1993) reports that ‘up’ and ‘down’ as descriptive of directional travel in Pohnpei are also influenced by the speaker’s relative location to the ancient ceremonial centre Nan Madol, which is located on the eastern side of the island. The first rulers of an island-wide political system lived in the basalt-walled community of Nan Madol beginning in the 10th or 12th centuries (Hanlon 1988:9).

The symbolic re-imagining of the landscape as higher in the east and lower in the west is evidenced in the names of two communities in the south of the island. One settlement is called Enipein Pah (‘Enipein Below’) the other is called Enipein Powe (‘Enipein Above’). Enipein Below is actually higher in elevation than Enipein Above, but it is also more westerly. The eastern community is also historically ‘superior’ having been founded before the newer settlement, as well as being closer to Nan Madol. The description of east as higher is shared by other societies (see for example Hertz 1973; Fox 1993; Sather 1993). While the other two cardinal directions, north (*paliepeng*) and south (*palieir*), can be reconstructed from Proto Micronesian, *palimese* and *palikapi* appear to be unique to Pohnpei (Dahl 1993 citing Reh).

The mapping of a superior/inferior relation (face v. bottom, up v. down) onto the horizon is further elaborated through a hierarchy of horizontal space within the structure of the *nahs*—a feast-house or meeting house also used as a dwelling.

4 Built space: vertical and horizontal relations

Houses are constitutive of principles of social organisation in Austronesia and elsewhere (see for example Bourdieu 1973; Moore 1986; Low & Chambers 1989; Fox 1993; Duranti 1994). Buildings are organised as systems of social relations, for example into male and female sides or areas, public v. private, sleeping places according to age or marital status, and so on. In Pohnpei the *nahs*,⁴ a flexible structure which serves as dwelling and feast-house, is an important site for the social reproduction of status difference. The structure is horizontally and vertically differentiated according to surface type and surface height. The structure consists of a U-shaped raised platform surrounding a dirt floor on three sides. The fourth side is open to the outside and is the common entrance. Seating position on the floor, vertically

⁴ See Mauricio (1993) for a fascinating account of this structure.

and horizontally conceived, serves as a map of relative social status. The further one sits inside horizontally and the higher one sits vertically the more elevated one's status. The structure is divided into male and female sides, men sit on the right, women on the left according to the low status point of view; men sit on the left and women on the right according to the point of view from the high status location (this reversal will be described further below). Feast-houses are conventionally built so that they face the sea or some other direction than the interior of the island (Mauricio 1993:326);⁵ the paramount chief's *nahs* in the Madolenihmw chiefdom faces outward and eastward. In former times fires were built so that smoke would blow inside and obscure the visibility of the high chiefs on the feast-house platform. The paramount chief sat behind a wall or a screen and smoke was directed between him and the public; the paramount chieftess was also screened from view. As mentioned previously, cross linguistically the semantics of superiority can imply 'covering' (Bennett 1975; Brugman 1981). The status of the occupant of a house, including a feast or meeting house (*nahs*) can be inferred from the size of the structure (Mauricio 1993:325).

In the *nahs* there is a canonical facing relationship between those of high status and those of low status. Chiefs and chieftesses (and other high status members of the chief's clan) face downwards from the highest and most inward point on the platform, while lower status people face upwards from lower, more outer locations. This facing relationship is expressed in the term for chiefs, chieftesses and other high-ranking members of the chief's clan, who are called *sohpeidi* (literally 'facing downwards'). Point of view or frame of reference is thus one of several indexes of status. Space and status are also linked linguistically in status-marked language, which stratifies location and movement in space.

5 Space and language: status-marked movement and location in space

The Pohnpeian language is an important tool in the creation of status hierarchies.⁶ Status-marked vocabulary organises the society into those of high status and those of low status. In some cases three status levels are indexed: high status for paramount chiefs and chieftesses, a second high level for lesser chiefs and chieftesses, and a level of low status for everyone else. However, the instances where three levels are actually marked in conversation (primarily in the case of food, eating, and some nouns), are far fewer than the instances where two levels are constructed. The most frequent type of status marking in transcripts of videotaped interactions is low status marking, that is, low-status members of the society marking their own activities and possessions or those of peers as low status.

Status-marking clusters around the domains of body location and movement in space, possession, knowledge states (knowledge is also thought of as a possession in Pohnpei), food and speaking. Movement and location in space are especially frequent sites of status marking. Possession, which can also be thought of as a form of locative (for example, 'my village'), is also a frequent site for status marking. Nouns are marked for high status but there are few nouns which index low status.

High v. low paths, regions, and relationships are constituted through status-marked speech in choice of lexical item. Planes of low-status movement and location in space, for example,

⁵ To face the interior would bring ill-fortune since a *nahs* that faces the interior is thought to 'eat' the fruits of the land and cause hardship in production and cultivation (Mauricio 1993:326).

⁶ See Keating (1998) for a discussion of this phenomenon.

are expressed by verbs with the *pato-* stem, see example (1), high-status movement and location in space by verbs with the *ket-* stem, see example (2).

- (1) M: *koh patoh-da-la wia-da udahn mwohd-in erir' eh?*
 you LocVerb⁸[HUM]⁹-up-there make-up truly sit-of server eh
 'go up there (you of low status) and act as the server, eh?'

The suffixes *-da* (upwards) and *-la* (away from you and me) add directionality to the stems *pato-* and *ket-* (Pohnpeian uses the convention of 'h' after a vowel to signify increased vowel length).

- (2) D: *eri Mwohnsapw ket-la mwo*
 so.then paramount.chief LocVerb[EXAL]-there there
 'so then the chief goes there'

The verb stems *pato* and *ket* are highly polysemous¹⁰ and one stem can mean many different manners of motion (for example, run, walk, go). To express stative location in space, the status-marked verb is used without any directional suffix or sometimes in reduplicated form (for example, *pato*, *ketket*).

The usual range of classifiers is reduced to one in expressing low-status relationships of possession (a combination of the general classifier *ah* inflected for person plus *tungoal*), whereas high-status possessions show a wider range of categories (to delineate dwellings, vehicles, food, and so on). In example (3), from the speech of a woman at a feast, spouses of those present are divided into high and low status through use of a classifier.

- (3) a. *sapwellim-atail werek kan de*
 PS.CL.-2PL¹¹(INC)[EXAL] spouse[EXAL] those or
 'our high status spouses or'
- b. *atail tungoal pwoud kan*
 PS.CL.2PL(INC) PS.CL.[HUM] spouse those.by.you
 'our low status spouses'

Pohnpeians do not always use status-marked speech. Some conversations are carried out entirely in status-unmarked speech. Context (for example, participants, topic, formality) plays an important part in whether status-marked speech is used. Activities of chiefs and chieftesses are always status-marked, and conversations which high-status people can overhear are very often in status-marked register, for example, radio broadcasts are in status-marked speech. Casual conversations among lower-status members of the community are sometimes entirely without status marking, except in greetings and except for references to the activities and possessions of high-status people (that is, these conversations are without *low* status marking,

⁷ An *erir* is a personal server of *sakau* (a ceremonial beverage called *kava* in many Pacific societies) to high-status people.

⁸ Because these verbs are highly polysemous, I have translated them as 'LocVerb' for locative verb.

⁹ I have used the abbreviations [HUM] and [EXAL] to stand for humiliative (low status marking) and exaltive (high status marking).

¹⁰ See also Dixon (1971) for a discussion of polysemy in specialised registers.

¹¹ PS. CL. stands for 'possessive classifier'; 2 for second person; PL for plural; INC for inclusive.

the most frequent type). Even status-unmarked speech, however, plays an important role in shaping local understandings and conceptions about space.

6 Space and language: right and left as social indexes

So far I have discussed the hierarchical valuing of east and west as a projection of the verticality of bodily relations, the construction of high-status and low-status activities and locative relationships in space through grammar, and the importance of the facing relation of the chiefs and the people—a relation which also entails a vertical component (chiefs and chieftesses face downwards, others face upwards). An additional way that spatial relations are realised through grammar as superior and inferior status indicators is through status indexing of the terms for ‘right side’ and ‘left side’ or bilateral space.

Many cultures construct right and left sides in a hierarchical relation (Needham 1973). Right can mean ‘in front’ or ‘ahead’ and ‘left’ can mean ‘behind’ among the Endo of Kenya; right also means ‘up’ and left ‘down’ (Moore 1986:54). The social valuing of the right side over the left is extremely common (Needham 1973), however, some societies more highly value the left (see for example Granet 1973).¹² The privileging or social valuing of one side of the body over the other makes hierarchy out of a mirror relation. As described by Hertz (1973:3): ‘What resemblance more perfect than that between our two hands! And yet what a striking inequality there is!’

The right/left relation in Pohnpei is not only hierarchised bilaterally, however, but is realised in different ‘levels’ through lexical choice, that is the same right-hand or left-hand space can be constructed in three ways. Two sets of terms for ‘right’ and ‘left’ index relationships on the social axis in addition to the spatial axis. Different forms thus construct not only a location in space but a location in the social order. The terms have an interesting semantic relation to each other and to other ideas in the Pohnpeian universe of relations.

The status-unmarked or common speech terms are *palikoahiek* (‘right side’) and *palisokoahiek* (‘left side’). The term *pali* means ‘part’ or ‘side’. The term *pali* is also used in future temporal reference, for the day after tomorrow. The term *koahiek* literally means ‘capable, competent, well versed’ (Rehg & Sohl 1979), *sokoahiek* ‘incapable, incompetent’ (*so-* is a negative prefix). This indicates that most Pohnpeians are right-handed or at least it is considered appropriate to be right-handed. Left is the marked side. There is no term for ‘right-handed’ but there is a term for ‘left-handed’ (*meingtoal*).

Using the terms *palimaun* (‘right side’) and *palimeing* (‘left side’) is more polite than *palikoahiek/sokoahiek*, according to native speaker consultants. The term *meing* (‘left’) is also used for status-marked speech and behaviour (it was not possible for consultants to discern any additional meanings for *maun*). The terms *palimeing* and *palimaun* are used in the Bible, which is written in status-marked language. The term *meing* can be reconstructed for Proto Micronesian (Rehg pers. comm.). A third set of terms for right and left are *palikehlap* (‘right hand’) and *palirirlap* (‘left hand’), which are used for the paramount chief’s right and left. The morpheme *lap* means large or important, while *ke* is a form of the causative prefix. The form *rir* can mean ‘concealed’.

¹² Right and left distinctions are not universal; Levinson and Brown (1990:28) found no left/right distinction in Tzeltal.

Not all speakers have full control of all three right and left terms. During descriptive tasks designed to elicit and record Pohnpeians' use of spatial terms, tasks in which native speakers described spatial arrays¹³ to each other, some speakers only used *palikoahiek* and *palisokoahiek*, and some only *palimeing* and *palimaun*. None used *palikehlap* and *palirirlap* during this activity, presumably because there was not a chief's right- or left-hand side to refer to. Interestingly, some speakers shifted between two of the sets of terms, even though there was no change in social context, that is, participants and location of the task remained the same, even though they did not use any other status-marked terms in the interaction. This suggests that the interactants may share some understanding about how differences in social status can be translated into (or analogous to) certain differences in spatial perspectives and arrangements. As mentioned previously, differences in gaze perspective indicate differences in social status in Pohnpei, and this difference in gaze perspective is lexicalised in the name for high-status people.

An example of speakers' code switching among two of the left/right systems is shown in examples (4), (5) and (6). In example (4), *meing* ('left') is used for the facing direction of a person, whereas *sokoahiek* ('left') is used to describe where a person is located ('standing') in relation to the frame of a photograph.

- (4) a. *kisin pwutak plastik riemen-o kilikilang-la pali-meing*
 small boy plastic two-there looking.DUR-there side-left
 'two small plastic boys are looking towards the left [status marked] side'
- b. ... *emen keskesihnen pali-sokoahiek*
 one standing.DUR side-left
 '... one person is standing at the left [incapable] side'

The speaker in example (5) also uses members of two different pairs for 'right', first using *maun* (plus a directional suffix), and then 'capable' (plus the same suffix), for the side of the photograph where a person is standing. This instance is a reiteration or repetition, it could also be a self-repair or correction of what the speaker considered an inappropriate lexical item, that is, repairing *palimaun*. In any case, the speaker is using code switching between both sets of left/right resources to communicate a spatial relation.

- (5) *ahpw pwutak me mih pali-maun-o de pali-koahiek-o*
 but boy the.one stay side-right-there or side-right-there
 'but the boy is on the right side [status marked] or the right side [capable]'

In example (6), the speaker changes to the more polite or status-marked form to emphasise a reversal or change in spatial location from right to left sides.

- (6) a. *e uhd doadoah-ki pali ehh meing*
 he/she/it switch.role using-with side ehh left
 'he switches places and uses the uh left side [status marked]'

¹³ The tasks were designed to elicit data about how Pohnpeians express spatial relationships in language. The project was designed by members of the Cognitive Anthropology Research Group at the Max Planck Institute for Psycholinguistics. The tasks consist of asking one member of a pair of speakers to describe objects in a photograph so that the other can choose the photograph which exactly matches it from among a number of photographs of different spatial arrays.

- b. *koahiek* *nkapwan* *ah* *meing* *met*
 right a.moment.ago but left now
 'the right [capable] a moment ago but left [status marked] now'

Speakers' shifts between casual and status-marked pairs of terms are in some cases strikingly systematic, however more research is needed to determine patterns of these code switches in order to analyse what, if any, specific features of a spatial relationship a register shift encodes. Some of the data suggests that speakers are using an alternation between a spatial-plus-status term and a spatial-minus-status term to signal something about a particular *social* relationship constructed through language that in the Pohnpeian world view is analogous to or indexical of a *spatial* relationship. Work on relationships between language and cognition has shown that 'there is good evidence that linguistic coding correlates strongly with the way spatial distinctions are conceptualised for non-linguistic purposes' (Pederson & Roelofs 1995:66). I include these code shifts here because they are another instance of building superior and inferior relations into space and because they show the richness of the resources Pohnpeian speakers have to describe spatial relations.

The spatial locations left v. right are dependent on point of view or facing direction and susceptible to rotation of the body (Miller & Johnson-Laird 1976; Levelt 1984; Levinson 1992). Left and right can refer to two quite different spatial regions among the same interactants. These regions are not only sites of status marking through choice of register in Pohnpei, but are also used in a complex way to manipulate certain ideas about social difference between chiefs and others. In certain activities done for the chief, the *left* is valued over the right and the *inversion* is itself a symbol of social difference and the creation of a zone of separation. This will be discussed in more detail below as a final illustration of the elaboration of rank through forms of spatial organisation and reorganisation, and the importance of space in the social reproduction of difference.

7 Redefining space: symbolic inversions

Just as is the case with the social valuing of east and west, the symbolic valuing of one side of the body over the other is shared by more than one society. As discussed previously, more commonly the right is valued over the left (Needham 1973), though the two sides are dramatically similar mirror images of each other. In Pohnpei, the right side is valued in casual speech (right or *koahiek* is 'capable', *sokoahiek* 'incapable') whereas the *left* side appears to be valued in status-marked speech. This revaluing of the left side is described as a symbolically appropriate part of doing service for a chief. As described by one consultant, doing service or making honour/respect for a chief involves a set of difficult and demanding practices, and using the left (or less skilled hand), *palimeing*, is 'the hard way'. The hard way is seen as congruent with ritual practices which require hard work. In ritually cutting meat at a feast, for example, men reportedly use the left hand. The term *meing*, as previously noted, is used both for 'left' and for the practice of speaking in status-marked speech (which is also viewed as difficult to master). The word *meing* is also an address term of respect for individuals. That the term *meing* is used for the left side often surprises native speakers who habitually use *palikoahiek* and *palisokoahiek*. At one point in the spatial description tasks, one of the participants stops and explains to her partner that *meing* is left and *maun* is right in

order to correct a misconception projected from the partner's knowledge of *koahiek* ('capable') and *meing* (respectful behaviour and speech) as both positively valued.¹⁴

The inversion in valued sides can perhaps be understood not only in terms of a symbol for the elaborate complexity of honouring chiefs and the idea of a separate zone of high-status activity, but possibly also as a result of the different perspectives or points of view constructed by the spatial organisation of the main feast-house platform. As described earlier, the sides of the *nahs* are divided into male and female sides. Chiefs and other men sit on one side, chieftesses and other women on the other. From the perspective of the chiefs (looking downward towards the common entrance) the men sit on the left, women on the right. However, from the perspective of those coming in the common entrance (virtually all other members of society), the women sit on the left and the men on the right. Right and left are of course viewpoint-dependent positions, and a facing relation between two people entails an inversion of these relationships. With a symbolic revaluing of left over right when indexing high status (taking the point of view of high status) or referring to status-making activities (such as serving the chiefs), the viewpoint-dependent (and thus different) perspectives can be made congruent. The *same* physical side of the feast-house can be the valued side from each perspective.

Practices of inverting the symbolic valuation of locations, including alternately inverting the symbolic valuing of left and right, can be found in other societies. For example, the Atoni of Timor typically emphasise the primacy of 'inside' space over outer spaces. But there exists a competing reversal of this valuing which is enacted on social occasions: '[R]espect to guests is mandatory, and the hosts must strive to reverse this primacy of the "house centre" by stressing the nanan [inner section] as subordinate "inner" opposed to outer, rather than superordinate "centre" opposed to periphery' (Cunningham 1973:227–228). The usual inner/outer spatial division is reversed to pay respect to guests; this 'redefinition of space is accomplished by means of a politeness code' (Wolfowitz 1991:204).

Other inversions reported by ethnographers are based on divine v. secular status. According to Needham (1973:307) the Batak of Sumatra, for example, believe that everything in the spirit world is the reverse of the nonspirit world:

the way of life of certain spirits, *begu*, including the ghosts of the recently dead and the spirits of distant ancestors, is materially the same as on earth, only everything that they do is reversed: when they go down steps they climb (*klettern*) head first ... they sleep by day and go about at night. (Needham 1973:307)

Similarly the Ngaju of southern Borneo believe the language spoken in the afterlife is the reverse of the language in this life: "right" there becomes "left", "straight" is "crooked" "sweet" means "bitter" for "stand up" one says "lie down" and so on' (Needham 1973:307). The Toraja of Celebes also believe everything the dead do is the opposite of the practice of the living. Not only do they use words in their opposite meanings, but they even pronounce them backwards. They use the left hand on occasions when the living use the right and the living use the left whenever they do something for or in connection with the dead (Needham 1973:307). In Pohnpei, the chief is a representative of the deities/ancestor spirits. He is addressed in the third person plural because he embodies these entities. These spirits are also materialised in the space in the feast-house behind (and more superior to) the chiefs and chieftesses, a space which is set aside for their habitation during feasts. The spirits share the

¹⁴ There is much variation in Pohnpeians' knowledge of status-marked language, partly due to its late acquisition and partly due to the frequency with which one interacts with chiefs and chieftesses.

chief's perspective, looking downwards. A dichotomy between sides of spirit and body is constructed in the terms *paliwahr* 'side of the body' which is opposed to *palingehn* 'side of the spirit'.

The inversions or revaluing of sides mentioned for various societies show how spatial concepts can be shaped and reshaped by social activities, how spatial concepts can be used to formulate and reformulate relationships of difference and similarity, and how space can be a dynamic resource through which structures of authority and privilege can be imagined and reimagined. The concepts of right and left and their elaboration through language and other social practices in Pohnpei are fine examples of the role of the body in interpreting and mediating the phenomenon of space and spatial reference. However, more research is needed to better portray the complexity of local conceptions about space in Pohnpei and elsewhere and the role of language in mediating these understandings.

8 Conclusion

In this article I have discussed several ways in which spatial concepts are used as resources in representing ideas about hierarchy in Pohnpei. These include the hierarchical valuing of east and west as a projection of the verticality of bodily relations, the construction of status levels of superior and inferior through grammar, including the case of right and left relationships, as well as the importance of the facing relation of the chiefs and the people—a relation which also entails a vertical component (chiefs and chieftesses face downwards, others face upwards). I have also discussed some cases where the hierarchical valuing of space can be reversed, and this too conveys important local ideas about hierarchy, and shows how ways of seeing are culturally produced. Buildings are organised as systems of hierarchical relations, as are topographies and even individual bodies. Spatial relationships are not fixed or enduring, but are constantly negotiated and reinterpreted through language and other social practices.

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10 *Space–time coordinates of subjectivity in Fiji*

CHRISTINA TOREN

We can ... say of temporality what we said ... about sexuality and spatiality, for example: existence can have no external or contingent attribute. It cannot be anything - spatial, sexual, temporal - without being so in its entirety, without taking up and carrying forward its 'attributes' and making them into so many dimensions of its being, with the result that an analysis of any one of them that is at all searching really touches upon subjectivity itself. (Merleau-Ponty 1962:410)

1 Introduction¹

This paper concerns the space–time coordinates that inform Fijian villagers' relations with one another, how they implicate and are implicated in their ideas of person and kinship, and become dimensions of a specifically Fijian subjectivity. These space–time coordinates are derived from an interaction between one's age at a given time, the status one accords oneself, and the status accorded one by others—this being evident, for example, in any gathering, in a person's seating position relative to others on the above/below axis that is applied to the internal space of village buildings. The interaction is lived (and thus evinces itself) as a dynamic embodied knowledge of the four-dimensional nature of one's relations with others. Anyone who is born and grows up in a Fijian village is bound to constitute this awareness over time as a function of inter-subjectivity and thus as an aspect of his or her own subjectivity. The constituting process (or, in other words, the process of making meaning or constituting knowledge) is itself an aspect of autonomous human being and is perforce historical because it at once preserves ideas over time and in so doing inevitably transforms them.

I argue that, for any one of us at any given time, mind is a function not of the brain, nor even of the nervous system, but rather of the whole person in inter-subjective relations with others in the environing world. My model of the constituting process is derived from a

¹ The data in this paper were collected in Sawaieke, chiefly village of the *vanua* of Sawaieke (comprising eight villages), on the island of Gau, Lomaiviti (central Fiji); despite significant regional differences in language and details of ritualised behaviour, the analysis below should be generally applicable to most of central and eastern Fiji.

synthesis of certain of the ideas of Maturana and Varela, Piaget, Vygotsky and Merleau-Ponty.² From Maturana and Varela I take the idea that all living beings are autopoietic, i.e. autonomous and self-producing, at once products and producers of the biological processes that are proper to them; so the structural organisation of an organism functions to specify those changes of state in the environment that produce changes in the state of the organism. It follows that the activity of the nervous system is determined by the nervous system itself and not by the external world; thus the organisation of the human nervous system functions to constitute the world that particular human beings inhabit.³

From Piaget I take the idea of cognitive schemes as 'self-regulating transformational structures', i.e. to be a function of human autopoiesis.⁴ A cognitive scheme is constituted over time via the complementary processes of assimilation and accommodation, whose mutual adjustments give rise to an equilibrated, and thus relatively stable, structure that is nevertheless always and inevitably open to further modification, such that meaning is always emergent, never fixed. Piaget's genetic epistemology describes an a-historical human being who acts directly on the world of objects and material processes. I argue, however, that because we are biologically social creatures our understanding of the world is always mediated by relations with others; in other words, any given person has to constitute his or her understanding of the enviroing world of objects and other people out of meanings that have already been made, and are still being made, by others. Thus I agree with Vygotsky that the process of language acquisition is crucial to the form of the child's understanding, and with his observation that during the early years of the child's use of its native language, 'the child's and the adult's meanings of a word often 'meet', as it were, in the same concrete object, and this suffices to ensure mutual understanding'.⁵

And finally, from Merleau-Ponty I take the understanding that human intentionality is always a function of inter-subjectivity, always embodied and historical and that the validity of our analyses in the social sciences resides in our being able empirically to reveal the historical embeddedness of the material processes that constitute embodied mind. So I am in sympathy with the related idea from Bourdieu that the primary task of the anthropologist is to understand how exactly people come to be 'enchanted' by ideas they themselves have made.⁶

If mind is a function of the whole person in inter-subjective relations with others in the enviroing world, it follows that any given person's practices and ideas are at once informed by, and differ from, all those others by whom they are surrounded—their peers as well as their parents and other adults and younger persons; indeed what a person does or has to say on any given subject today is bound to differ, more or less subtly, from what they did or said last

² For a full account of this model, see Toren (1999a).

³ See Maturana and Varela (1972, 1988).

⁴ Piaget (1971:113).

⁵ Vygotsky (1986:111). Note that in acquiring their native language children do not merely take on, as it were untransformed, the meanings adults hold before them; Bowerman (1982) shows that the development of meaning takes place largely before and outside the acquisition of language forms, and that children have gradually to work out the categories of meaning implicit in the structure of their language on the basis of experience with language itself. Her work suggests that semantics (i.e. meaning in language) is not isomorphic with an embodied, but inarticulable, understanding of the world.

⁶ Bourdieu (1977:4); Toren (1990) is an extended analysis of how ritual and ritualised behaviour inform the process of 'enchantment'. The present paper is a re-working of material in Toren (1990) in the light of the theory developed in *Mind, materiality and history* (Toren 1999).

week or what they will do or say tomorrow. Bearing in mind the autonomy of any given human being and the always dynamic and transformative nature of the processes that make one who one is, one can show how people continue to produce the historical specificity that is called 'culture', such that what it is to be a Fijian villager today is at once a legacy of the past and an emergent product of the present.

Kinship is the medium of any given Fijian villager's relations with others and certain key ideals of kinship are materially manifest not only in the conduct of certain categories of kin with one another, but in houses, in the disposition of houses vis-a-vis one another in the space of the village, and in the gardening land that at once divides and unites villages in a single *vanua* 'country, land or confederation'. The meanings made material in house, village and land do not, of course, declare themselves. Rather it is by virtue of the routinely ritualised aspects of their day-to-day behaviour as they live and work in the house, the village and the *vanua*, that people willy nilly imbue these spaces with meanings, in such a way that the meanings themselves become coercive of behaviour. But for any given person this microhistorical process of constituting knowledge happens over time; if we take the perspective of the infant and the growing child we can, perhaps, understand something of how the constituting process is mediated by the inter-subjective relations with others that inform the child's conditions of existence. I begin, however, with an analytical perspective.

2 Hierarchy and equality

Fijian social relations are perhaps best described as the continually emerging product of a creative tension between hierarchy and competitive equality, each of which is held by adults to be a principle of human relations. Indeed, one can argue that in the Fijian case, hierarchy and competitive equality are fused aspects of a single idea of antithetical duality where each kind of social relations depends for its very continuity on the other.⁷ In the village, hierarchy and competitive equality are expressed in terms of one's position relative to others in time and space.

One's status in the community at large, itself derived from an interaction between rank (chief or commoner), seniority (older or younger), and gender (wife or sister in relation to a given man), marks out one's place above (*i cake*) or below (*i ra*) others in any gathering in house, village hall or church. This above/below axis is applied both to a single horizontal plane, for example one end of the floorspace of the village hall is above and the other is below, and to the vertical; for example, it is polite, when moving among others, to adopt the respectful posture called *lolou*: one bends from the waist, ducks one's head down, and walks in a stooping posture, all the time murmuring an apology, *tulou, tulou*.

The above/below axis is constituted out of a transformation in ritual of another spatial construct—*veiqaravi* lit. 'facing each other', also 'attendance on one another'. This term describes the disposition of houses in the space of the village; houses are usually grouped according to clan (*vakamataqali*) and to *yavusa* (*vakayavusa*, the *yavusa* being a group of clans united by ritual ties and inter-marriage).⁸ Moreover, in any given part of the village,

⁷ See Toren (1994a).

⁸ Shelley Sayes argues that *yavusa* are not so much 'descent groups' as 'a group of *mataqali* who have remained together in the same locality ... kinship through intermarriage often might have been their only ties' (Sayes 1982:87). Here, however, marriage provides for the constitution of kinship, just as kinship (the relation between brother and sister) creates the possibility of marriage (between the respective children of the

houses are oriented such that the land door of one house faces onto the sea door of the house beside it. *Veiqaravi* may here be taken to refer to the balanced reciprocity in exchange that obtains across houses, clans and *yavusa*; the term also, however, denotes 'attendance on chiefs' when the reference is to a chiefly ceremony, and 'worship' when the reference is to a church service. Thus the very term *veiqaravi* contains the tension between competitive equality and instituted hierarchy that allows balanced reciprocal exchange across houses to be transformed in ritual into tribute to chiefs.

Clans and *yavusa* may be ranked hierarchically in accordance with the ritual services they are obliged to provide to other clans and *yavusa*, however the precise order of this ranking differs according to any given speaker's point of view. At the same time, people also relate to one another as 'land' and 'sea', where exchange relations are again at once reciprocal and balanced and where again, from one point of view they are thus regarded as equals, while from another sea appears to be superior to land.⁹ All relationships can be conceptualised and referred to as kin relations; at its widest extension one's kin include all other ethnic Fijians. With the exception of the equal relation between cross-cousins, all kinship relations are hierarchical and require varying degrees of respect and avoidance. The antithesis between hierarchy and competitive equality here references that between non-marriageable kin (where the paradigmatic reference is to the hierarchical house and clan) and marriageable kin (who as cross-cousins are equals across houses and clans).

The term for kinship is *veiwekani*; this reciprocal form of the base *weka* may also be translated as 'being in relation to one another'; ideally all ethnic Fijians are one another's kin. **Within** generation, relationships are designated by fully reciprocal terms, e.g. *veitacini*, 'taci to one another' 'same-sex siblings', *veiganeni*, 'gane to one another' 'siblings across sex', *veitavaleni*, 'tavale to one another' 'same sex cross-cousins', or *veidavolani*, 'davola to one another' 'cross-cousins across sex.'¹⁰ **Across** generation the base term designates the senior party to the relationship, e.g. *veitinani* and *veitamani* refer respectively to the relation between a mother (*tina*) and her children and a father (*tama*) and his children.¹¹ But in the case of a child and its parents' cross-siblings—its mother's brothers and father's sisters, the term *veivugoni*, 'vugo to one another' is again fully reciprocal (a matter I return to later). This Dravidian terminology is used in reference and address to everyone one knows within and across villages and chiefdoms and routinely extended to take in previously unknown people.

The tension between hierarchy and competitive equality given respectively by relations between kin within the house and kin relations between cross-cousins as affines across houses can be historically related to chiefship. High chiefs are associated on the one hand with relations within the house and on the other with affinity. By virtue of drinking the installation *yaqona* 'kava' a high chief becomes the leader of the community, whose image in *yaqona* ritual is that of 'the house' writ large. The fundamental organising concept of social relations is the house which, by definition, depends on the existence of other houses for its continuing

brother and sister), or their children's children, who are affines (i.e. affinal ties are explicitly encompassed by kinship).

⁹ See Toren (1990:74–89, 1995a). Cf. Sahlins (1976:26–42).

¹⁰ The word *tavale* used to apply only to male cross-cousins, *dauve* to female cross-cousins and *davola* to cross-cousins across sex; nowadays, in my experience, *tavale* is used in all cases indiscriminately.

¹¹ This accords with the way the terms are used by a third party; when used by ego, *veitinani* and *veitamani* refer respectively to ego's relations with mother (*tina*) and father (*tama*), while *veiluvuni* designates ego's relation to those he or she calls child (*luve*).

existence.¹² People relate to one another as kin, but while kin relations **within** the house are axiomatically hierarchical—husband above wife, older sibling above junior sibling—kinship **across** houses references the equal relationship between cross-cousins. Further, *all* exchange relations are competitive and ultimately those of balanced reciprocity even while the rituals of chiefship render them as tributary and apparently unequal.

In *yaqona*-drinking the paramount is seen to take precedence over and to be above others just as, within the house, a man is seen to take precedence over and to be above his wife. The perceived subordination of wife to husband itself depends on the ritual transformation of the equality of cross-cousins into the hierarchy of marriage and is effected not only in the marriage ceremonies themselves, but on a daily basis in the conduct of every meal.¹³ The exchange relations between spouses are complementary and balanced; but at meals the wife sits below her husband, serves him, and eats only when he has finished. The ritual transformation of balanced reciprocity across houses into tribute to chiefs that takes place on a daily basis in *yaqona*-drinking has the appearance of being fully effective only in the ceremony of the installation *yaqona*, in which the chief becomes one who has ‘all the ancestors at his back’.¹⁴

This brief overview is an artefact of analysis; one might argue that it describes objectively the social relations within which a Fijian village child has perforce to operate and whose meanings he or she has to constitute anew in the course of growing up. What it does not convey is the conditions of existence as these are lived by the growing child—a lack I try partially to redress below in the form of edited extracts from my fieldnotes from 1981–83. Throughout, fictitious names are used to disguise people’s identities.

3 Learning one’s place in house and village

The typical Fijian village house consists of one large rectangular room with four doors symmetrically placed in the centre of each side. Wooden houses often have three doors (the end door, *darava i kubu*, being omitted) and concrete houses may have only two. The door of the cooking irons (*darava i sue*) is the common entrance. This door marks the lowest part of the space that is *i ra*, below. Everything to do with meals is relegated to this area; one must not bring food into the house by any door other than the common entrance, nor indeed use the other doors at all unless one is classed as belonging to the house (*i taukei*, also translated as ‘owner’) or of high enough status for their use to be a prerogative of that status, or unless one is specifically invited to enter by the honoured door (*na darava dokai*). This usually, but not always, faces the sea and is also called the sea door (*darava e wai*); the door directly opposite it and facing inland may be called the land door (*darava e vanua*). The taboos on the use of these doors may once have been connected with *na kau tabu*, the forbidden or sacred beams that support the roof on both long sides of the house. To some extent all doorways are tabooed: one must never sit on a threshold in such a way that one’s body is inside the house and one’s legs and feet outside; nor may one wear shoes inside the house—they must be removed outside or immediately inside the entrance and to one side of it. Decorous behaviour

¹² Toren (1994b) shows how applicable to an analysis of Fijian social relations is the idea of the house as developed by Lévi-Strauss (1983, 1984).

¹³ See Toren (1990:52–64).

¹⁴ See Toren (1990:100–118).

inside the house is at all times enjoined by adults on children, who are not allowed to run or jump or dance or loll on beds or, by and large, to engage in any activity inside the house that entails standing up.

The end of the house furthest from the common entrance is curtained off as a sleeping area, private to members of the household. The remaining floor space is covered with pandanus mats—finer mats at the end called above (*i cake*) near the sleeping space, coarser at the end below (*i ra*) near the common entrance. The horizontal axis formed by the poles above and below defines the internal space of all buildings in the village including the village hall, the church and any temporary shelter erected for occasions such as Christmas, New Year, weddings, funerals and so on.¹⁵

Most activities within the house are a kind of public activity in the sense that, unless wind is driving rain inside, the doors are left open and passers-by can both see into the house and be greeted, invited to eat and so on by those inside with whom they are able to speak. For meals the cloth is laid on the mats along the above/below axis and the house members take their places there in accordance with their status: the senior man sits at the pole above and is served largely with the best food, below him might be an unmarried younger brother and on the other side of the cloth his sons in their due order according to age; the wife of the senior man occupies the pole below with her eldest daughter opposite her and any child who is still an infant beside her. One may begin to eat after grace has been said, but women as wives delay their own meal to wait on their husbands. The food served at meals is carefully apportioned such that one both sits and eats according to one's status; thus even on special occasions such as Christmas there are foods that never come into children's hands.

23 December 1981 A number of small children are hanging about as we butter buns etc. [for the tea for young men's annual, pre-Christmas weeding of the graves] but they are not given any; only the tiniest (age 17 months or so) get a biscuit. Neither do the children ask for anything—they are accustomed early on it seems to waiting to be given food. Nor do they ever ask for second helpings of *icoi* [the fish, meat or green vegetables that are served with root vegetables] at meals. The odd two or three children (under three-years-old, say) wander into the hall [where the tea is being served] and are given something by their fathers or by one of the women. Men quite unselfconsciously eat all the best things—i.e. cakes—leaving none at all for the women. Women eat a lot themselves but they do not keep back any of the best things, these all go to men.

The extent to which one can eat freely and control access to food (and especially to desirable food) is a crucial marker of the respective positions of household members vis-a-vis one another. The significance of children's daily experience of seeing who eats what and how much is apparent at once in their never asking for food and in the way they assert their own control over younger children by dispensing desirable tidbits when in a position to do so.¹⁶

Hierarchical relations between kin are expressed and in part constituted in varying degrees of respect and avoidance, with the obligation devolving upon the junior party; across sex, these are all incest relations characterised as forbidden to each other (*veitabui*) and where they are especially emphasised, as in the relation between brother and sister, and between mother's brother and sister's child, they should not speak to one another, nor should they occupy the

¹⁵ The only building in a village where there is no above/below axis is the village store which, significantly, is typically situated at one of its borders.

¹⁶ See Toren (1998) for an historical analysis of the way that eating informs Fijian ideas of personal effectiveness.

same space unless well-separated by a good number of other persons. These *veitabui* relations do not, however, come into effect until a child is past puberty; and gender informs this process since as far as I could see, girls as young as eleven often do not address men classified as their mother's brothers while boys may continue to be on terms of real familiarity and affection with such men well into their teens.

As soon as it can talk, a child is instructed by its mother or other adult, to greet those whom the adult cannot address:

Raica! Oya Momo Sakiusa. Kacivi koya 'Tutu Sakiusa, mai kana!'
look there father-in-law Sakiusa call him, grandfather Sakiusa here eat
'Look! There is father-in-law Sakiusa. Call him, "Grandfather Sakiusa, come and eat!"'

In this example, the mother names both her own relation to the man indicated and the child's relation to him. The toddler/young child is routinely told in similar terms to greet and to invite anyone who passes by to eat, a kind of instruction that informs the child's learning of kinship terms and the practices proper to their usage.

The toddler/pre-school child spends most of its time in and around its own house and the houses of those kin who live nearby and close kin who may live on the other side of the village; women in Gau do not garden, so a child is not accustomed to being much taken out of the village. Nevertheless, by the time a child is four years old or so, when it is likely to have a younger sibling or two, it knows most of the village pretty well (that is, around 40 to 50 houses) and is used to being greeted familiarly by everyone, and to going in and out at will of any house belonging to its closest kin. Even so, the child is always shy (*madua*) and usually will not answer questions out loud or address its elders unless specifically required to do so, as, for instance, when it is instructed by its mother or other adult to deliver a verbal message. Young children's demeanour with their elders suggests an early and fast-developing embodied knowledge of their subordinate status.

15 October 1981 ... Ratu Maciu [aged 25] is playing with Jone [aged three-years-old]. Ratu Maciu is *momo* [classificatory mother's brother] to Jone who [...] allows himself to be pulled about by Maciu, is almost entirely passive, says nothing at all in my hearing... He protests only when Ratu Maciu tries to do something he doesn't like ... Later he goes with Ratu Maciu and Jo, who are cutting wood and bamboo to make a new toilet shelter, and sits quietly nearby, watching. At lunch he is still there. Ratu Maciu slaps him quite hard a couple of times for no apparent reason—as one might offhandedly slap a contemporary—and places the hot spoon from his tea on Jone's calf. Jone begins to cry and Maciu laughs, holds him by the ankle while the child struggles on his stomach to get away.

Within sex, between children and young people who are contemporaries, this kind of slapping etc. is usual and signifies an affectionate competitive equality; between older and younger children, as between adult and child, it carries in addition a strong suggestion of the authority of the elder. There is a certain ambivalence here, however, which in the example given above is entirely consistent with the logic and the emotional tone of the relation between mother's brother and sister's son—the explanation of which resides in the wider set of relations in which it is embedded.

The very idea of the clan as clan is constituted in exogamy and in Fiji it is cross-cousins who bring the clan into being. The corollary of this is that across clan hierarchy can and does become, openly, a contested issue and the equality of cross-cousins is made to play against the hierarchy of siblings in such a way as to leave the issue always unresolved. Any given person

lives this tension in the transformations that take place over time in the relation between any child and its parents' cross-siblings. Both within and across sex, a child is often a great favourite with its real mother's brothers and real father's sisters—much indulged, affectionately teased and generally allowed great liberties; if the marriage is endogamous to the village this may be especially true for a boy with his mother's brothers. But at some point in the child's mid- to later teens this relation is abruptly transformed into the strictest of all cross-generational relations. Respect, avoidance and obedience are all enjoined on the junior party in relation to mother's brother. At the same time, it is this relationship that allows the junior party as *vasu* to take without asking anything he or she wants from men of the mother's clan, i.e. from mother's real and classificatory brothers. In other words, the *vasu* relation combines the licence allowed cross-cousins with the extreme avoidance and respect that is characteristic of relations between brother and sister and it is this binding of antithesis that allows the term *veivugoni* to be fully reciprocal, where other terms for cross-generational relations name the senior party.¹⁷

14 April 1982 ... The other day watching four-year-old Timoci ... We women are all in the hall [preparing pandanus for mats] and he goes happily from person to person to sit in their laps and be hugged and held but he is very quiet, it's difficult to get answers out of him ... Children are constantly told to *dabe ra* [sit down] though women will tolerate it if they don't as, on rare occasions, will men; but both men and women constantly tell children fairly severely that they are *siosio* [inquisitive] ...

I sit for a while drinking *yaqona* [kava] under the mango tree outside Ratu Anare's house; there are a number of children there, some belonging to his younger brother ... the youngest one—perhaps 18 months or more but a small, thin child—stomps about the mat doing pretty much what he wants, ignoring all instructions to *dabe ra* [sit down], not to go above the *tanoa* [the central bowl in which *yaqona* is mixed and from which it is served], not to be *siosio* [inquisitive], to leave people and things alone. But he has to be quietly stubborn and defiant to achieve this; very often he is pulled into people's laps, but he gets up after a moment and goes off silently about his own devices.

Children's silence in adult company is marked; from casual observation I should say that, as a mode of inter-subjectivity, it is acquired very early—in part, perhaps largely—as a function of observation of somewhat older children.

'14 April 1982 cont'd.' Ratu Lui, direct grandson of Ratu Anare and probably also about 18 months, is a more passive child, happy to be kept still with food and cuddles ... He is sitting, playing some of the time with his grandfather, but he is not intrusive. At present everyone is asking him (Lui) the same questions:

¹⁷ Lévi-Strauss argued in 1945 that in the 'atom of kinship' constituted in the relations between brother, sister, father and son, relations between men and women in the senior generation will stand in correlative opposition to relations between men across generations (1977:46). In Fiji this should mean, for example, that reserve between B and Z is opposed to familiarity between H and W as reserve between F and S is opposed to familiarity between MB and ZS. This set of oppositions does not, in fact, obtain as such. Nevertheless, when we take the point of view of a male ego as a child who becomes a young person who becomes an adult, we can see that at any given point in this process Lévi-Strauss's thesis holds e.g., the father's sternness to the young child contrasts with the playful familiarity of the mother's brother; while a progressive relaxation in the relation between F and S over time contrasts with increasing avoidance between MB and ZS. The relations between a male ego and his father's sisters undergoes a somewhat less pronounced and elaborated change in contradistinction to the relation between him and his mother. Cf. Lévi-Strauss' discussion of how, for the Lele, the system of relations in the atom of kinship changes as a function of 'succeeding phases of individual life' (1978:100.)

Evei na mata-mu?
 where article eyes-your
 'Where are your eyes?'

He blinks.

Evei na liga-mu?
 where article hands-your
 'Where are your hands?'

He puts up his hands.

Evei na ulu-mu?
 where article head-your
 'Where is your head?'

He touches his head.

Lui seems somewhat bored with this game, surfeited, but everyone asks him nevertheless. I don't see mothers playing this or any other game with their young children or babies though infants are given lots of cuddling and loving by them, as by all their classificatory mothers and grandmothers. On the whole children are told to *tiko lo* 'be quiet or be still' if they pester their mothers and I have yet to hear a young child (infant to four-years-old) ask any question other than of the greeting variety, e.g.

Lako ki vei?
 go to where
 'Where are you going?'

Adi Luisa, three-years-old, always asks me:

'Tiko evei o Manueli?'
 stay where article Manuel
 'Where is Manuel?'

[My son, then eight years old, who had at this time returned to England.] But she never follows up on my answer, though I try to get her to do so.

11 June 1982 ... Adi Titilia (five-years-old) does not come right into the house where men are drinking *yaqona* when she comes to give the money she has fetched for him to her father. She stands hesitantly among the young men right at the bottom of the room, holding out her arm, the money clutched in her hand, and waits for him to call her to him. When she comes to him [walking *lolou*] he tells her to *dabe ra!* [sit down!] and to *tiko vakamalua!* [be still!]. Neither does Pita (seven-years-old), nor any of the other boys who have gone on various errands, enter the house directly when they return. Each one knocks (the doors being closed because of the cold wind) and then puts his head round the door, kneeling on the doorstep. If they have to come in they crawl to the man to whom they have to speak, do not walk upright. Only Ratu Lui (20 months or so) walks about at will, even up above, close to the private area of the house and behind the men who are sitting above the *tanoa*. He is made much of by men as well as women, seized and kissed at every opportunity. Adi Luisa (an extraordinarily large child of two-years-old, sister to Titilia) is not so adventurous or rather is not allowed to be. She's a tough little girl, spends a lot of time hitting adults, other children, dogs, throwing stones and anything else she can lay her hands on and generally throwing her weight around. I have yet to see her rebuked by her mother for this behaviour but neither is any other child

unless they are tormenting a child who is very much younger than they are (e.g. a three- or four-year-old hitting a child of 18 months). Children of eight to nine years old are by right of being older allowed to chastise five- to six-year-old children. Adi Luisa walks about at the bottom of room exchanging blows and being cuddled by some of the young men sitting there; the young men make a fist, make as if to punch the child and then draw back. [Judging by her enunciation, clarity etc. she can talk well and certainly understands what is said to her, but in none of these encounters does she speak, even when a young man addresses a question to her.] The children never seem to be at all threatened by these mock displays of force.

The behaviour of the young men in this example is very much that of the cross-cousin variety (or of the mother's brother in relation to a very young child, as described above) and thus, while their gestures may look aggressive, the children seem to be able easily to distinguish them from those that are genuinely threatening.

Adi Luisa is told constantly by various adults to *dabe e ra* [sit down] but takes little notice of this instruction.

3 July 1982 ... Young children rarely actually speak to adults although they understand speech perfectly well and know exactly what to do when instructed to do something. For instance, Mili (three-years-old, close to four) is happy to come and sit on my knee for long periods and often calls out my name as I pass her in the village, to say *yadra* [good morning] or *moce* [good-bye] when instructed to do so from inside the house by her mother. This kind of instruction is routinely given to children by adults and older children, or even to adults by one another,

Raici Tama-i Adi Tagici, kacivi koya mai.
look father-of Adi Tagici, call him here
'Look, there is Adi Tagici's father, call him here.'

This in respect of invitations to

mai kana, mai gunu ti, mai gunu yaqona
here eat, here drink tea, here drink kava
'come and eat, come and drink tea (often, 'have breakfast'), come and drink kava.'

Mili will never answer questions out loud, for example:

Lesu mai-vei nikua?
return from-where today
'What have you been doing today?' (lit. 'Where did you come back from today?')

She just gazes ahead or at you with enormous eyes until you make the question—one that can be answered by a nod or by *deguvacu* [raising the eyebrows to signify 'yes'], for example:

Ko qito kei iratou na gone nikua?
you play with those-few article children today
'Did you play with the children today?'

She is not afraid of me as some of the littlest children are. Neither is Timoci, but neither of them will converse out loud with me. But then children are so rarely encouraged to talk with adults; they are cuddled, told to

dabe ra

'sit down',

instructed to do things

lai sisili!

'go (and) bathe'

or

kauta mai na voivoi oqori

bring here article pandanus beside-you

'bring me the dried pandanus beside you'

biuta na ise,le, mavoa, biuta!

put-away article knife wound put-away

'leave the knife alone, you'll hurt yourself, leave it alone!'

But they are rarely engaged in conversation ...

Ratu Lui (19–20 months or so) is the most vocal of the youngest children. I have seen his mother talking with him when they are in their own kitchen but, even in the fondest of mothers, this is not habitual mother–child behaviour...

The other night I join the women and men in the hall about 9 p.m. ... Adi Amalia had little Mili (who is one of the tiniest children for her age [three years old, close to four] I've ever seen) serving *yaqona* from the bucket that was being used by the women at the lower end of the room. She does this extremely well though very slowly, walking with tiny little steps from the bucket across the room to whomever Adi Amalia has designated the drinker. She does not sit, clap politely with cupped hands, etc. [as would an older child or adult serving *yaqona*] but she goes dutifully back and forth until Adi Amalia tells her that it's time to stop.

By the time a child is three to four years old it has internalised a relation to adults that is characterised by quiet, retiring and respectful behaviour on the part of the child and stern, if loving, behaviour on the part of the adult or older child. Moreover, by age four to five, children have begun to adopt the polite practices of their elders. Until the age of twelve or so a child is usually literally below—that is, smaller than—those to whom it is subordinate. Nevertheless, a child of four or so who has begun to imitate the polite behaviour of adults makes itself even smaller by walking *lolou*—its body bent over in the posture of respect that is proper as one moves among others who are seated. But the posture of a child who is somewhat older (five to seven) is likely to show a marked and exaggerated shift into respect when the child is required to approach and address an adult, even one who is a member of the child's immediate household. The child will bend right over in walking, or crouch down, or walk on its knees—making itself as small as possible. Four and five-year-old children are already being sent from house to house to deliver messages or make requests so, by age six or thereabouts, the requirement to adopt this body posture when approaching or addressing adults is frequent as well as routine. Moreover, by this age the child is beginning to discriminate among adults, such that married men and women and elders are accorded a more exaggerated bodily deference than are young men and women—who are nevertheless properly respected, for any want of politeness is likely to bring forth a sharp rebuke, if not a blow.¹⁸

¹⁸ The very crudeness of young children's discrimination of differential status shows us that they are in the process of making meaning out of their relations with others, as opposed to merely receiving it in language or being socialised by others.

Acts by children that constitute offences in adults' eyes, for example disobedience, disrespect, carelessness that results in breaking a piece of crockery or other loss, failure to perform expected tasks such as gathering firewood or coconuts or bait for fishing, meet with more or less severe punishment; depending on the adult's mood at the time punishment ranges from being shouted at to being beaten with the whisk broom, belt or other implement. Nevertheless, while children are apparently remarkably obedient and never answer back, they are adept at concealing from adult notice anything that might be a misdeed, and they also have legitimate recourse to a kind of passive defiance that resides in their having, early on, acquired an embodied awareness that they are entitled to resist the loss of dignity that inheres in acceding immediately to any request, order and so on.

Sunday 18 October 1981 ... This morning Adi Amalia is angry with Ratu Kini [aged 10/7] because he is not ready for church, reads him a furious lecture. He is in the act of getting ready, standing behind the curtain carefully folding up the sleeves of his long-sleeved shirt. She raps him a couple of times on the head with her knuckles and shouts, telling him he should be in church when the first drum sounds, little children should be so, they should not be late. I think he's not late—the second call has not finished sounding; however he has certainly missed the chanting of the Methodist catechism. He does not attempt any excuse, says nothing at all, just stands there still folding up his sleeves very slowly. Adi Amalia finishes, leaves, and Tu Kini continues what he is doing with absolutely no haste though she has said to him several times *t'olo t'olo* [*totolo*, i.e. hurry] in furious tones. I catch his eye and we exchange smiles. Manuel [my son, then aged eight] has picked up this habit of moving very slowly when asked to do something; also one never does anything immediately one is asked, never moves quickly. Children run of course but only when playing games. They never move quickly otherwise.

Children's embodied knowledge of practices of both respect and defiance is evident in their behaviour—respect behaviour being enjoined upon them by adults in a series of endless injunctions to do and not to do certain things. But the adults' own behaviour in instructing children is held by them to be an objective function at once of the particular spaces in which they find themselves and who exactly is present at the time. In other words, adults' behaviour makes it appear as if the above/below axis were an objectively given dimension of the internal space of any building, such that one must, when occupying any space, take up one's position there in accordance with an interaction between one's own status and whatever activity is in progress at the time. A woman at home on her own or with her young children does not walk *lolou*, but she will certainly not, while sitting on the floor in the area of the house space that is called above, carry out an activity that is appropriate only to the area called below—boiling a kettle on a primus stove, for example; and as soon as her husband or any adult contemporary with, or older than, herself enters the space she will immediately modify her body posture and so on, in accordance with their status relative to herself. Again, when women are weaving mats together in the village hall, the first-comers tend to sit to work at the lower end of the room and other women take up the higher positions only as the space fills up. In other words, the above/below axis of a space appears to coerce people's behaviour even when they are working and there is no *yaqona* in evidence to enjoin a formal propriety on their seating places. Moreover, in any situation, when passing among other people who are seated, indoors or outdoors, one must modify one's body posture by walking *lolou* so as to disavow any wish to place oneself above them. Nor, inside the village environs, may one swing one's arms while walking, wear a hat, or sling a towel or garment over one's shoulder—all prerogatives of chiefly rank (which may of course apply to either women or men).

By the age of nine, children not only know how to behave, but often enough at least some of the etiquette proper to particular ritual occasions. When, however, they are alone with one another primary school children (aged five to twelve or thirteen) routinely violate the behaviour proper to the house and the village hall, for example they run, dance, fling themselves about, wrestle, throw objects to one another, raise their voices, laugh uproariously, jump on beds, and so on. Out of sight of adults, late on Sunday afternoons, they play, go swimming in streams and waterholes outside the village, climb trees and generally have fun—activities that are all strictly forbidden on Sundays. Secondary school children (aged twelve and older) will sometimes curtail such behaviour in younger children, but more often than not they let it pass. Only if they are immediate siblings can the older secondary school child be relied upon to put a stop to wild behaviour in younger siblings in the absence of adults.

This is telling because the relation between caretakers and infants, and in general between adults and children who have not yet left school, conforms to hierarchical relations within the house, whose explicit model is not so much the parent–child relationship as the seniority of siblings. Indeed the weight accorded by their elders to the seniority of siblings means that even though, considered categorically in relation to young men and women and to adults, children (*na gone*) are one another's peers, they cannot, within household, ever quite be so. Equality of relationship is at once constituted and expressed in open contest or competition, in teasing or joking and in mutual familiarity; in children aged up to fourteen-years-old or so this behaviour is prevalent between all those who are within two to three years of each other—even between immediate siblings living in the same house. But relative seniority is bound to be an issue here because even a child of four or five should take care of and watch over younger siblings, when the older child's manner becomes that of one who is *in loco parentis*, dispensing food, discipline and affection when required.

To come into their own as lively, talkative, independent, and full of fun, children have to find their peers, who by definition can belong only to other houses, and not to the child's own house.¹⁹ The process of finding one's peers likewise begins early.

Sunday 28 March 1982. In church Sunday night Adi Luisa [three-year-old girl] and Ratu Lui [16-months-old boy] are engaged in a more or less constant and quiet battle—over a fan, a book, anything available. Adi Luisa, a large and forceful little girl (like her sister Adi Titilia) is badgering Lui, hitting him etc. Her mother does not attempt to stop her except when the noise level gets too high. Ratu Lui's mother encourages him to hit Luisa back each time she hits out at him. [These two children are immediate cross-cousins.] Behind me almost precisely the same encounter is being encouraged between two babies in arms: Sereana (six-months-old) and Luke (10 months or so) [I do not know the kin relations here] ... The mothers look on indulgently and in the case of the babies show them how to do it. Only when a child begins to cry in earnest is it taken out of church.

Part of the text of *Making sense of hierarchy* was devoted to showing how a child constitutes its understanding of hierarchical relations with others via its recognitory assimilation of the body posture appropriate to particular situations. Piaget reserves 'recognitory assimilation'—a term that describes a kind of motor recognition—for babies, but I take it to have a more general application in so far as it continues to inform young children's

¹⁹ Toren (1999b) analyses how the process of finding ones peers informs the constitution of Fijian kinship.

awareness of their own physical being in relation to others and underlies a developmental shift that produces deliberate imitation of certain adult behaviours.²⁰

A Fijian baby and young child is *yalo wai*, that is to say both its capacity for reason and its disposition (*yalo*) are unfixed like water (*wai*). So there is no point in engaging a child in conversation or explaining anything to it; nevertheless the child is early orientated towards others and made aware of their pre-eminence; apart from hunger, a baby is not understood to have demands of its own and ideally the child should not actually experience hunger because it should be fed before it has to cry for food; any explicit teaching of a child is largely directed towards its obligations to others. A baby or young child who is seated on an older person's lap faces outwards, towards the company, and if adults address toddlers and children up to the age of four or so, it is usually to tell them to do, or not to do, certain things.²¹ That an action is forbidden (*sa tabu!*) and that the child must sit down (*dabe ra!*) and be quiet (*tiko lo!*) are the remarks most commonly addressed by adults to toddlers and children up to age three or so. By about the age of three, disobedience routinely meets with a smart slap or a sharp knock with the knuckles on the side of the head and if the child cries or becomes angry it is ridiculed or the punishment repeated until the crying or display of anger stops. Laughter, ridicule and mock threats are the common response to any childish distress—even if the child is simultaneously being comforted—and are likely to come from anyone and everyone present who is senior to the child by several years. Thus a child of seven or eight is *in loco parentis* to younger children of three and four and to toddlers. While shame and fear in a child are not precisely disapproved of, their manifestation in a child's inability to speak up in response to questions or in a timid and shrinking posture are invariably commented on loudly in the child's hearing—for example,

Raica! Sa rere o koya!
look is afraid article he (she)
'Look! He's (she's) afraid!'

or

Gone dau madua na gone oqo!
child always ashamed/shy article child this
'This child is always shy!'

Moreover, as is apparent in the examples above, it is common for older children or young men deliberately to anger a child by stealthily pinching it or teasing it in some other way, and then to laugh and mock at the futility of its angry response until the child begins to cry or creeps away, pursued by laughter and joking remarks on its behaviour.

The child assimilates these engagements with others to its existing schemes of relationship and this assimilation is simultaneously an accommodation; thus the child makes meaning out of the relations in which it is engaged and that meaning bears on the child's place in relation to others; but in taking the other's point of view, the child also comes to be aware of its own status relative to those others. The experience of being rendered *madua* ('shy') through fear

²⁰ Toren (1990:100–118); see Piaget (1962:78–86) and Piaget and Inhelder (1973:52–63) for an analysis of imitation.

²¹ Prescriptive injunctions by adults to children inform the process of genetic epistemology through which Fijian children constitute over time the idea that hierarchy is to be taken for granted as a principle of social organisation (see Toren 1995b).

constitutes the child's bodily submission to others and anger is its inevitable accompaniment; but whether that anger can be directed at others or only at the self constitutes one's status in relation to others. One can direct anger only towards those of lesser status than oneself.²²

4 Conclusion

I have tried in this paper to convey something of the process through which a Fijian villager lives his or her relations with others as a function of an embodied spatiotemporality; the young child's inferior status in relation to his or her elders is physically manifest in its body posture and general comportment in the company of adults and, so far as one can tell, physically *felt* in the child's own body. The child's relative smallness and its fewer years in the world is the lived marker of its relative insignificance. At the same time, the child is also constituting a sense of self as one among peers, and again the child's own existential physicality in relation to other children is crucial. With peers there is the give-and-take of open competition, but with elder siblings there is always the possibility that an awareness of seniority may lead the elder to enjoin certain behaviour on the younger and enforce compliance. Children who are each others' peers may attempt to assert themselves one-up by fighting and other means; in the case of siblings, however, it seems to be more often the case that the younger child takes it for granted that he or she must be seen to give in to the wishes of the elder. The drawing out of this difference, within generation, between the equal relation between cross-cousins and the hierarchy of siblings may be seen in the process by which children come to constitute kinship in terms of *veilomani*, mutual compassionate love, and in so doing begin to know kinship as the unifying and inexhaustible medium of all their relations with others.²³

The child's lived sense of its own spatiotemporality is forged in inter-subjective relations with others. A crucial aspect of the process of constituting knowledge is, however, as I have tried to show above, that both the spatiotemporal dimensions of the world and the relations within whose terms they are constituted are, in the course of growing up, discovered by the child to be aspects of the objective world; they are there in the grouping of houses *veiqaravi*, facing each other, that implicates balanced reciprocity in exchange, and in the above-below axis that governs use of the internal space of house, church and village hall whenever people sit at the cloth to eat, or gather to drink *yagona*, to meet in council, to attend on chiefs, or to worship. Thus, be one child or adult, one's sense of self is objectively realised in the status accorded one's position in relation to others on the above-below axis—a position that seems therefore to be, at any given time, proclaimed by the space in which one finds oneself.

²² For further analysis of the relation between anger and shame and its political implications, see Toren (1998).

²³ See Toren (1999b).

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11 *The house as social metaphor: architecture, space, and language in Samoan culture*

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The man, no matter how high his rank, who builds himself a whole house, in casual, informal fashion, is engaged in a secular activity, as is the woman who weaves her fine mat while half a dozen children tumble recklessly about among the strands. But if the man is engaged in adding one sennit lashing to a house for which tufuga have been formally engaged, or a woman sews one feather to her mat in a formal 'weaving house' of wives of matais, they are then formal, important activities, consecrated to the value the Samoan respects most—the formal social structure. (Mead 1930:125)

1 Introduction¹

In the Samoan account of the formation of the universe collected by the missionary Powell much of the creation process seems to be mediated through words. As explained in the myth, Tagaloa spoke to the rock and it divided, thereby creating the various lands. He ordered the origination of the first house and the master carpenters began work. Emphasis on the spoken word and its power to bring about productive space can be found in the strong ongoing tradition of Samoan oratory. 'To Samoans the ability to give an outstanding speech is one of the most valued accomplishments' (Keesing & Keesing 1956:141). No important event can occur without the inclusion of formal oration delivered by one or more *tulafale* or talking chiefs. Such presentations are both structured in form and variable in content depending upon the circumstances.² Formal greetings and speeches are also part of everyday life and social dialogue. The significance of the spoken word is underscored by the existence of two separate vocabularies, one chiefly the other common. In Samoa, it is through the use of formal discourse that relationship links are produced or reproduced which in turn lead to the

¹ Language information was derived from dictionaries of the Samoan language compiled by Pratt (1911), Milner (1966), and Allardice (1985). This was supplemented by my data gathered in the 1990s with the aid of Samoan- and New Zealand-born interpreters and various English-speaking Samoans.

² For an in-depth analysis of Samoan oratory see Tu'i (1987) and Duranti (1981).

establishment of distinct social spaces. These social ties are both made manifest and delineated through the use of architectural terms within the Samoan language.

Both the Samoan macrocosm and microcosm are conceptually and physically divided into autonomous but interlinked spatial constructions. This system finds expression in the geographic segmentation of land and the conceptual classification of social groups. Within the matrix are inserted those forms which we call architecture. Several studies to date have demonstrated the connection between the structure of language and other cultural expressions, including art and architecture. In addition, scholars such as Sapir (1921) and Whorf (1956) have suggested a link between the formulation of language and the cognitive processes extant in a given culture. In Samoa, the meanings carried within the various connotations of a given word and the interrelationships of these sub-meanings may reveal associations through which the world is seen to function. At the same time, Samoan social vocabulary borrows from the physical forms of buildings and the actions associated with their construction. In this process, priority is afforded the materials used as well as the symbolic associations embedded in architecture.

Holmes recounts a myth in which the creator Tagaloa a Lagi directs the construction of the first house. The deity's initial decisions concerned the materials which would form this *fale*. 'He resolved that he would build it out of people. So a group of people were instructed to form a circle, thus providing the posts. Others were directed to climb on their shoulders in order to form the parts of the roof' (Holmes 1974:52). The positioning of people to form the perimeter supports replicates the ordered seating arrangement of chiefs within the house when they are engaged in formal council or *fono*. Although Tagaloa was pleased by the shape of the *fale* he felt that more structural support was needed. He used three sea fish as centre posts. However, there was still not enough strength in the building and Tagaloa reverted to the use of humans to compose the ridgepole, rafters, and cross beams. When all was done and the house was well fashioned and visually pleasing, it was decided that wood would be substituted in the construction. The people climbed down and gathered the breadfruit timber which would thereafter be used to build *fale*.

In this myth, humans are directly linked to the creation of the *fale*. They are seen not as the agents of construction, but the actual components of the house. In this way house and humans become analogous. The people used in the fabrication are not isolated individuals, but are linked together in a series of relationships. Such human relationships are seen as necessary for the shape and the stability of the house. Ultimately the breadfruit wood replaces the initial living materials. However, the *fale* remains as manifestation and signification of a community of people linked together in a strong group. Beyond this initial symbolic association, architectural language is also used as a sign system which provides social messages that parallel those engendered in the physical forms of Samoan architecture: boundaries, members, and internal characteristics.

2 The Samoan language

Certain aspects of the Samoan language render it accessible to the study of meaning structure. Nouns are characterised as two types: personal and nonpersonal. Of these, each classification has a separate group of possessive pronouns associated with it. 'Personal nouns are those with which one has an intimate and personal relationship. ... Nonpersonal nouns are those which could be described as mere *objects*, having no intimate relationship with one's

life' (Hunkin 1988:82, italics Hunkin's). Kaeppler (pers. comm.) has suggested the terms *inalienable* and *alienable* to designate the conceptual difference between the two noun types. The *inalienable* nouns include the soul, the emotions, the body, land, personal clothing, relations (excluding spouses), canoes and houses. This last suggests the strong association between human beings and houses, a concept engendered in the myth recounted above. This connection is further delineated when individual words are analysed.

Pratt (1911:4) notes that in Samoan 'Polysyllabic words are nearly all derived or compound words'. Large words are thus constructed as a series of roots strung together, either multiple nouns or a base. These are then preceded or (more usually) followed by one or more qualifying adjectives. This association of multiple roots can produce a linked series of meanings, either overt or covert. The cognitive significance of each complete word is often evident when the less explicit implications of individual roots are considered. However, the associations found within a single word are not in themselves important as an isolated event. Rather, it is when the same concepts are expressed in a series of related words that a meaning pattern becomes evident. To examine the interrelationship of architectural language and society, initial consideration will be given to word *fale* 'house'. Those terms which use *fale* as a primary root will be analysed. Attention will then be given to additional words which are used to designate structures and the use of architecture as metaphor in proverbial expressions.

3 House as family

As a noun *fale* means house, building or shelter. In contemporary usage it functions as a primary root in such terms as *fale meli* 'post office', *fale tupe* 'bank', and *fale pia* 'brewery'. As a verb or preposition *fale* engenders ideas of interior space and containment. The idea of family or lineage is usually expressed by means of the root '*aiga*'. However, this word is linked to the concept of house through one of its principal meanings. The term '*aiga*' can be used to indicate cohabitation and the beginning of the family unit. The extended family is the structural unit upon which Samoan society is based. The concept of co-residence connects '*aiga*' with the verbal meaning of *fale*, that is, to dwell within. The primary visual sign of the corporate identity is found in the '*aiga*'s guesthouse, while the spoken vocabulary of architecture also expresses the social space.³ The physical structures which mark family property and signify family prestige and pride become verbally linked to this basic Samoan social module.

The link between the family and its buildings is stressed when the word for house is verbalised in its duplicate form. The resulting term, *falefale*, means placenta. In old Samoan belief, the foetus grows within this physiological structure. The term *falefale* is literally the house of the house, the origin of the descent group as well as the individual. It is interesting that the synonym for placenta, *fanua*, also carries the meaning of land (Macpherson & Macpherson 1990:186). In Samoa most property was at one time held by the family unit and is still conceptualised within this framework.⁴ As the familial name is the title of the *matai* or chief, the title is given meaning in its association and control of land and its attendant productivity. Through the terms *falefale* and *fanua* the individual is linked to the land and the

³ For more on the use of guest *fale* as expressions of family identity and prestige see Allen (1993).

⁴ For a discussion of the changes in Samoan land tenure see O'Meara (1990).

structures which mark it and is given identity within the context of the larger consolidated descent group.

A Samoan adage alludes to the differences that mark diverse descent groups. The term *o le fili va i fale* means the enemy in the space between the houses. These enemies refer to weeds growing at compound boundaries and the minor arguments which can arise between neighbouring families (Schultz 1985:48). Each lineage possesses its own houses and its own property; physical spaces which both reflect and support the social spaces. Unproductive weeds are commonly only left to grow on the strips of land which are not clearly claimed by one or the other group. When cutting the grass, which is usually done by hand using a long 'bush knife', the 'gardener' always stops at the property line although there may be no physical marker to indicate its location. A row of uncut wild vegetation between buildings visually indicates the separation between the two families. In their physical division of property, the weeds provide the boundary between houses just as quarrels reinforce the segregation of distinct families. At the same time that weeds are the enemy of agricultural production, these quarrels are contrary to the production of social relationships. The reinforcement of divisions between separate families is mediated here through language using the metaphor of the house. However, the analogy does not end with this rather simple association. Rather it is continued through the conceptual linking of architecture with divisions both within and outside the family and the conditions of those social-spatial entities.

As well as using *fale* as a metaphor to define the individual extended family, architectural terms function to delineate group or individual-based divisions within the larger entity. The term *ita paepae* means the sides (*ita*) of the foundation (*paepae*) and refers to the edges of the rectangular stone base of an important *fale*. It was common in the recent past for prestigious guesthouses to be raised up five feet or more on this stone base. The term *ita paepae* is also applied to title divisions which occur within an individual descent group in one village. Such partitions can arise through the consensus of various branches of the family or can be imposed by the Lands and Title Courts. 'Most splits occur originally between brothers or between their children. The splitting of a title is one way of avoiding open conflict among contending branches' (Shore 1982:83). The use of *ita paepae* to designate these groups acknowledges their origins in a single family and their structural interdependence as the infrastructure of what was once a single house.

The word which designates different, potentially competing, family branches is *fuaifale*. When used as a suffix *fuai* (or *fua'i*) denotes a dividing or detachment from others. *Fuaiala* is a village division, *fua'ifa'i* is a single banana. *Fua'iniuina* is the passive form indicating to be broken or cut off, i.e. separated from others, as the banana is removed from the bunch. Unlike *ita paepae* which stresses the common origins of the now diverse descent groups, *fuaifale* underscores the separation from the original house that has resulted in the creation of new families. This fissioning can be seen in the creation of entire villages as well as individual families.

The division of a family, village, or district into two equally strong factions is intimated by the saying *Ua vaea i ulu fatuga*, that is, 'Divided on top of the *fatuga*' (Schultz 1985:41). The Samoan indigenous-style house is constructed in three parts. The centre section and two ends can be separated and the entire structure transported to a new site. The initial unlashing occurs at the *fatuga* or centre section rafters. It is here that the two end sections are attached via the lashing of their structural supports to the centre.⁵ The separation at the *fatuga*

⁵ For a more detailed descriptions see Allen (1993) and Buck (1930).

effectively divides the *fale* into distinct components. Likewise, dissension divides what was at one time a single socio-political space. While verbal references such as this proverb, *ita paepae*, and *fuaifale* address splits within unified groups, their use reinforces the concept of architectural terms as signifiers of the larger corporate unit. The association of house with extended family is also embodied in certain terms which refer directly to children.

According to Pratt, the word *faletama* denotes the children of a polygamist.⁶ It literally means the children of the house. House thus functions as a signifier of a particular social relationship, in this case that of parent and child. More specifically it suggests the ties between a chief and his children since polygamy was usually reserved for *matai* 'chiefs'. In this case each wife would have been given a separate residence for herself and her children. Use of the base noun *fale* again links architecture with the family unit. Shore provides a more specific meaning for *faletama*, that of competing descent group branches that originate with half-siblings who (most commonly) were fathered by the same man (Shore 1982:236). In this usage the emphasis is on the descent groups which were created by the dividing of the original family or house. Furthermore, the linking of the child with the founding family is still evident in both the general and specific meanings.

The term *falealo* has a similar meaning to the more general application of *faletama*, designating the children of a chief. Often such marriages were politically motivated as a means of linking the two families involved. Consequently, divorce was also common. Upon the termination of the relationship, the wife would return to her own family. The older children would remain with their chiefly father while the young, less independent ones would go with their mother. In contrast to those of a man, a woman's children are referred to via alienable or nonpersonal possessive pronouns. Even today, sons or daughters-in-law are considered outsiders when residing with their spouse's family. Both *faletama* and *falealo* incorporate the word for house to signify the kinship group. This is done through specific references to children and the human reproduction which gives meaning to physical space. Although children belong to both their mother's and their father's families, usage of the terms *falealo* and *faletama* emphasise the male's chiefly rank.

4 House as chief

In addition to the linking of house with family, the word *falealo* associates children with the abdomen, particularly the chief's. As a verb, *alo* means to be pregnant, but only in reference to a chief's wife. Through the correlation of *matai*'s children and pregnancy, the family is identified with chiefly position. The *matai* title of the family provides more than the conceptual structure and focus for the descent group. Through the actions of its holder, the appellation becomes the source of life via the chief's control of physical space, agricultural and home-based production, and his participation in the events which result in extra-familial social ties. The chief represents the family just as the *fale* marks their residential land and signifies their existence and pride. Within the Samoan language the two (*matai* and *fale*) come to verbally define the lineage as well.

The coupling of *matai* and house is elaborated in the word *matafale*. The *matafale* is the gable of the roof with *mata* suggesting eyes, face, apex, or the capacity to resemble. When

⁶ The word *tama*, when used alone and depending on context can have a great variety of meanings. It can indicate a male, a child, a boy, the offspring of a woman or a chief of high rank.

used as a prefix or suffix, *mata* incorporates ideas of sight and the visual world. At the same time that the architectural element is denoted, *matafale* also means the caretaker of a title. By extension this means the guardian of the family and the physical spaces signified by that title. The top of the roof of the house is in effect the leader of that group which resides within. David Herdrich (1991:405) has suggested that the positioning of large stone ritual platforms on ridges during pre-Christian times was an attempt to provide a point of mediation between the world of the living and the supernatural heavens above. The role of *matai* as family priest would have been a behavioural corollary to this function. Such a correspondence would also be intimated by the association of the chief with the highest point in the *fale*. In addition to the linking of *matai* and gable, on Upolu the wall posts are called *atuao*. This term means 'the row of chief's heads' (Pratt 1911:36). This derives from the designation of the peripheral ring of support posts as seating places for *matai* when engaged in formal council. The word *mana* or spiritual potency has long been regarded by Polynesians as residing in the head. In addition to *matafale* and *atuao*, further reference to a chief as the structural component of a *fale* exists in the word *tulafale* or talking chief.

The word *tulafale* not only indicates a talking or orator chief, but designates a place on which a house stands. The suffix *tula* provides the meaning of open or standing. For the *matai* this suggests his position when delivering a formal greeting or speech; i.e. erect holding the identifying flywhisk and staff. For the house *tula* indicates the actual position of the structure. The use of *tulafale* for both the orator and the house location suggests a link between the two. In at least one myth the talking chiefs restore the house of their high chief after its theft by carrying it upon their backs as they swim. Just as the chief is the foundation of the family, the location '*tulafale*' provides the base for the house. The *matai* as the support of the house-family is reiterated in the saying *A gau le poutu, e le tali poulalo*, 'When the middle post is broken, the sides cannot withstand' (Schultz 1985:42). In the round *faletele* the centre support poles carry the entire weight of the structure. This adage is recited when a family experiences the death of a *matai*, emphasising the strength and support that are now lost. Those chiefs that have died are also said to become house posts in Pulo, the Samoan underworld (Stair 1896:36). There they physically become what they verbally represent in life.

A more indirect referent to the support activity of a chief concerns the word for a formal, arranged marriage: *faletauta*. Here the word for house is joined with *tauta*, denoting an attempt to stand or dangerous underwater coral blocks. This term (when combined with a variety of roots) results in compounds which carry connotations of service and the desire to become a chief. Although *tau* alone has at least 19 meanings, many of these are concerned with the idea of characteristics. The suggested meaning of *tauta* is that of having the attributes of erect posture, stability and sharpness. Most formal, arranged marriages (in the past and today) are between a chief and a girl of high status. Such an agreement would be entered into for the social and political good of the extended family. In this act of familial support, the participating *matai* also serves the corporate descent group, a prime requirement of his role as chief.

In contrast to their references to chiefly support and power, architectural terms are also used to define the limits of a *matai*'s influence. The *mutiagiagi* are the four rafters that can be found at the apex of the round end or *tala* of an indigenous-style Samoan house. While the lower ends of these rafters are lashed to the centre end post, the tops are not fastened with sennit. Rather, they remain hidden by the rest of the roof support structure. The term *fa'amutiagiagi* (i.e. like the *mutiagiagi*) is applied to a chief who only resides temporarily in a

village. This *matai* is not entitled to take part in the formal *fono* discussions or receive any food which may be distributed (Schultz 1985:41). In terms of the respect afforded him and his position, the titled individual in this case is treated as a *matai*. However, his influence is limited (as is the lashing of the gable rafters) by his lack of connection to the village through one of its constituent families. He appears to function as a form of village support. However, the effect is illusionary as is the physical support afforded by the *mutiagiagi* rafters.

The concept of chiefs (especially *tulafale*) as the support for the physical structure of the house is engendered in an ancient account collected by Bradd Shore. This story concerns the origin of orator chiefs. It is said that at one time the Tui Manu'a (the paramount chief of that island) possessed a *fale 'ula* 'crimson house' thatched with red parrot feathers. The house was stolen by people from the island of Atafu in the Tokelaus. The Tui Manu'a ordered his men to retrieve the structure. They succeeded in obtaining the *fale* after engaging in battle with the thieves.

Each man had a pole to carry, and they all swam in the sea with the house resting on the poles which lay on the necks of the attendants. So that is the real origin of the word *tulafale*: *tuluga-o-le-fale* [resting place of the house]. This is your calling, he said, and I will spill over my strength to you and you will execute the power [*pule*] of my dignity [*afio*]. (Shore 1982:315; brackets Shore's)

Here the role of the orator chief as *fale* support is acted out, not just implied. As the underpinning for the house, the chief is also the basis for the social space which is the family.

The use of the term *fale* to mark exclusive social divisions has particular importance when used with reference to *matai* 'chiefs'. The word *faletu* indicates the residence of the head of the family, the chief's domicile. Originally this house would be of the large *faletele* 'round house' or *faleafolau* 'long house' styles. Today if the family can afford it, the *matai* resides in a prestigious enclosed Western-style house. This is in contrast to the *faleo'o* or more simple structure which shelters the various common members of the family. Among its many meanings, *tu* refers to a submerged block of coral in the lagoon, a potential danger to canoes which might ground upon it. As an adjective it indicates a firm, stable, or sharp entity. As a verb *faletu* means to stand or stand up, as a chief stands to deliver formal oratory. The residence of the *matai* and the *matai* himself are seen as strong, prominent and possibly dangerous.

As *faletu* designates a *matai*'s residence, *faleto'a* refers specifically to a chief's sleeping house. At one time such a house would have been surrounded by a wooden fence as a means of protection during war and of thwarting assassins. The suffix *to'a* incorporates ideas of steady nerves, calm and control; attributes of the high chief or *ali'i*. It is also the chiefly word for sleep. Like the coral block implied in the word *tu*, *to'a* indicates a rock near to the sea's surface on which a canoe might strike. In both *faletu* and *faleto'a* the idea of chief is linked with danger and strength. 'A house built of the wood of the breadfruit tree [*'ulu*] is particularly durable and may, therefore, be compared to a chief or a *tulafale* who is able to protect his family' (Schultz 1985:42). Even today breadfruit is the customary and often required wood for many of the structural elements in a traditional-style guest *fale*. It is associated with productivity, human control, and chiefs. Thus, the strength of a *matai* is emphasised when he is referred to as *O le malu i fale'ulu*: the protection provided by a house constructed of breadfruit wood.

Along with strength, the dangerous aspects of chiefly power are suggested in the word *falefuitui*. According to Buck (1930:69) a *falefuitui* is a *tulafale*'s house where men gather in council. Pratt does not include this word in his dictionary and no one I interviewed was

familiar with the term. It is possible that the usage was limited to Tutuila or the Manu'an Group, that it has died out since the early twentieth century or that Buck was misinformed. Therefore, the following discussion is tentative.

The talking chief, if not speaking as head of his own lineage often represents a more highly titled relative during formal social discourse, although *ali'i* 'high chiefs' can and do speak for themselves on some occasions. The significance of *fui* in *falefuitui* is unclear. It may relate in its meaning as a bunch or cluster of fruit and thus refer to the gathering of chiefs that takes place in the *fale*. However, *tui* has several connotations which appear to be directly relevant. The word *tui* means shellfish in general and one species in particular. It is the title of the Tongan paramount chief, the *Tuitoga* and in Samoa indicates a high chief or king. More importantly, it also means to beat, pound, strike with the fist, or to devote to destruction. The chiefs gathered in the meeting house for council hold great power, the potential for destruction as well as production, and are thus dangerous in the authority they wield. They are, as individuals, responsible for supplying food for their families and, as a group, for feeding village guests. It is this association with food that distinguishes a chief as much as conspicuous power.

While the correlation of chiefs with sustenance is not strong in the word *falefuitui*, another word with *fale* as its root directly associates the *matai* with food and food production. A word for the *Palolo* feast is *faleali'i* (*ali'i* meaning high chief). The *Palolo* is a sea annelid which is only available during the period of the waning moon in October or November. At this time the worm expels its reproductive organs into the sea above the coral. The organs, when bursting open, eject eggs and sperm into the water. The annelid is considered a delicacy and was the basis for a major feast. Even today the moonlight gathering of *palolo* is a celebratory event, although secularised. When the gathering of *Palolo* on Savai'i was witnessed by O'Meara (1990:97–98), he noted that all the canoes grouped above the reef were manned by *matai* 'chiefs' in bright *lavalavas*. The exclusive access of the chiefs to boats further underscores their link with the proceedings. The colourful attire helps reinforce the atmosphere of revelry. In *faleali'i*, the *matai* (or specifically the high chief '*ali'i*') is linked to the sudden productivity of the annelid and the subsequent feasting. In daily life and ritual it is the leader of the family who is responsible for the distribution of food and his position is visually and verbally marked.

As the chief is the embodiment of the lineage, the premises of *matai* are distinctly designated in formal language. The *fale* of a high chief is a *maota*. It has also come to mean palace in modern usage. In contrast, the house of an orator is a *laoa*. Both of these *fale* can be used for village council meetings. However, it is a prerogative of an *ali'i*, a titled nobleman, to have an official meeting house built on his land. Every village will have at least one of these grand *maota*, usually located at the edge of a *malae*. For the most important titles, the house site itself is remembered with reverence long after the building itself has been dismantled. As with titles or places in the council, a *maota* retains an existence even when not in use. Important orators have their houses too, called *laoa*, but on the most important occasions a *fono* will be convened in one of the larger and grander of the *maota* in the village (Shore 1982:79).

Although neither *laoa* nor *maota* carries any readily discernable sub or covert meanings, their very existence as separate terms is significant. They verbally mark the chief just as their physical structure (along with the guest *fale*) visually evidences and denotes the family land. At one time the indigenous-style long house or *faleafolau* would have been used for the talking chief while the round *faletele* was associated with the *ali'i*. Within their respective

descent groups, the two types of chiefs are equivalent. However, their functions within village and extra-village socio-political structures are distinct. Although the visual differentiation between the *maota* and the *laoa* has waned, the verbal division is still in evidence reflecting modern social reality. In addition, although *maota* and *laoa* refer specifically to *matai*, they also incorporate a referral to the descent group which derives its verbal and conceptual identity from the chiefly titles which it controls.

5 House as village

Although the use of architectural terminology to verbally signify the individual descent group is quite strong in Samoa, the application of house as metaphor extends beyond the family to include the village. Each of these two groups is made manifest by the existence of architectural forms. The lineage is denoted by the buildings on the family compound, the village by the presence of prestige architecture adjacent to the *malae* 'village centre—sacred space'. Just as each family internally functions as an autonomous social space, each village is independent in its control of land and its authority over member lineages. The association of architecture and village is found in the word *fale'upolu*. The word *'upolu* is a generally discontinued first person pronoun as well as the name of one of the islands. According to Pratt, *fale'upolu* means the people and is a respect term often substituted for *nu'u* or village. Its constituent meanings (of house and pronoun) mark the *nu'u* as one's residence or place of abode. Today, *fale'upolu* is the formal appellation for the talking chiefs in a village taken as a group. In addition, specific house designations both refer to the village and its constituent *tulafale*.

In 'particular village or district greetings a reference to a group as a "house" such as "house of three" or "house of seven" may be normally assumed to refer to a body of orators' (Shore 1982:241). Fagamalo is thus sometimes identified as the *faleiva* or house of nine. The identity of the village is equated with its *tulafale*. It is these men (and women) who speak for the *nu'u* and represent it to the outside world. They lead all formal travelling parties and are on hand to greet important visitors. Within the village, they are responsible for the enforcement of all council dictates. In addition to the identification of the community with its orator group or *fale'upolu* and the designation of their number, certain villages are given specific architecture term-based identification.

The expression applied to the ruling towns of Safotulafai and Sale'aula, on Savai'i⁷ is *falepule*. The word *pule* indicates both command and the authority to dictate. More specifically, the term *falepule* refers to the power to apportion food to those lower in the hierarchy by those villages that have the direction in district council. Consequently, the use of architecture as a verbal signification of a bordered social entity is found from the basic module of Samoan society (the family), through village, and ultimately district levels. In addition, the house and its parts are not linguistically restricted in function only to the definition of the enclosed group. The metaphor is also used to define those outside the unit.

⁷ These are not the only villages in Samoa so designated, but are two within or close to my study area.

6 Those outside the house

Within Samoan verbal usage, the house as metaphor conveys ideas of the corporate descent group or village and district organisation, their internal divisions and leadership. Conversely, *fale* is also used as a means of distinguishing those outside actively functioning social spaces. The word *fale'esea* means to be isolated or to dwell apart, the adjective *'ese* denoting something different, wrong or foreign. Also implied is the idea of being away from or the physical division produced by a fence. Pratt (1911) specifies his definition as 'to dwell apart, as a sick person, or a husband driven away by his wife' indicating a separation that is not by choice. It also suggests that the state of isolation is not natural, but one which is contrary to the ordered working of society and the good of the individual.

Like *fale'esea* the word *faleaitu* also suggests division. In most dictionaries *faleaitu* is defined as a comedy. However, it is more than that. A *faleaitu* is specifically a humorous interlude used to separate the stages of a longer more serious performance.⁸ As an interlude within a larger activity, the *faleaitu* effectively divides temporal space just as fences and other boundaries divide physical space, providing a framework for the events. As with those architectural terms and compounds which suggest the extended family or village units, it is the establishment of definitional boundaries that is being intimated in the use of *fale'esea* and *faleaitu*. Therefore, the focus in these words is upon exclusion rather than inclusion.

A *faleauto* is one residing away from his own village and therefore on alien land, excluded from the families around him. Such a person is welcomed and yet, as an outsider, is subject to an element of doubt and possible hostility. To be away from one's *fale*, family or village is to be a stranger and under suspicion. This helps to explain the position of the spouses of children born to the family. When villages engaged in war, daughters-in-law were prevented from hearing the plans made in *fono*. They were effectively segregated from the house which at that time symbolised the village. In other circumstances, such a meeting would be public: all seated or passing nearby able to note the proceedings. Upon the death of her spouse a woman can be excluded from the affairs of her late husband's descent group and forced to return to her own people. This is true even after a long and successful marriage. She has been an active and productive member of the household, yet always remains an outsider.

The exclusion of the outsider is expressed by the proverbial expression, *fa'alupe tupola*. Here the person who has neither home nor family is compared to the pigeon who sits on the plaited coconut leaves (*pola*) which cover and enclose the house during inclement weather. The expression *o le pola tau fafo* 'the house shutters hang outside' also indicates an individual who is not viewed as a member of the descent group. The lowering of the coconut leaf blinds effectively prevents egress into the interior space. Since there are no walls in an indigenous-style *fale*, there are no doors to be opened. A similar attitude is reflected in the phrase *fa'alupe tumulifale*, like a pigeon sitting behind the (hunter's) house, for the hunter is only concerned with those birds which alight before his hut. Here 'particular stress [is placed] on the fact that the homeless person gets no consideration' (Schultz 1985:34). Such a sentiment indicates how close the identity of the individual is linked to that of the larger descent group in Samoan society and its signification in architectural forms. Yet, at the same time Samoans are almost always willing to invite the visiting stranger into their homes.

The ambivalence between the welcoming nature of Samoan behaviour and the retention of underlying distrust is expressed in the term for guesthouse, *faletalimalo*. As physical

⁸ Pers. comm. Caroline Sinavaiana.

structures the guest *fale* in a village are the most visually prominent and (as such) are representative of family pride and position. They are invariably single-room, un-walled buildings, although many today are constructed using Western carpentry techniques and materials. The word *faletalimalo* can be broken down into several roots. The verb *talimalo* means to receive guests, but this verb can itself be further subdivided. The word *tali* engenders ideas of response or greeting and is linked to the presentation and acceptance of food. Food functions as an extremely important metaphor in Samoa and its consumption and distribution is requisite for almost all ceremonial activity. The word *malo* in turn denotes visitors while at the same time exhibiting connotations of conflict, confrontation and danger. The word signifies the victors in war or games, power and authority through government, strength, and hardness. The *faletalimalo* exists to welcome visitors. However, its size and prominent placement also reveals the power and status of the extended family. The guest *fale*, in form and verbiage, denotes the family integrity in contrast to those outside. The house as symbol thus functions to define both members and nonmembers, us and them.

7 Internal characteristics

Within the *fale* terminology, one finds not only words which define the limits of various associations but also those which are concerned with the quality within such groups. This regard for the characteristics of spatial entities, whether physical or social, is expressed in the creation myth collected by Powell. There, Tagaloa the Creator was not content with the mere establishment of spatial divisions. Rather, he continued their development through the institution of social relationships and the subsequent productivity. The link between production and social ties is also reflected in the use of *fale* as a root for characterising social space.

The words *faleola* or *faleolamea* denote a house made of the rare and precious olamea wood. It also means that all offspring are living and refers to the extended family unit. *Ola* has the meaning of life while at the same time indicating both prosperity and food. As a verb it means not only to live, but also to give birth (that is, to generate life), and to end war, which results in a sustaining of life. The opposite of *faleola* is *falegase*, offspring all dying. The root *gase* carries the meaning of being numb, dead or the killing of animals. Through the loss of its children a 'house' fails and no longer produces. The boundaries which define it thus become devoid of power and cease to exist in any active sense.

The phrase *e tele a ululau* refers to the lack of power found within a specific association: family, village or district. It means 'large like a bundle of sugarcane leaves' (Schultz 1985:41). When thatching is required for a new or already-standing house, the women will go to the plantations to cut great bunches of this material. Although big and a bit unwieldy, the parcels are, nevertheless, quite modest in weight. The referral to the bulky but light sugarcane leaves is applied to a community primarily composed of a large number of persons of little or no importance. The lack of prestigious title holders in turn results in the characterisation of the larger group as inconsequential. While the reference to thatching material or the terms *faleola* and *falegase* delineate the members of the social group as a company, other words are directed toward the internal ordering of the association.

A *faletua* is any small dwelling placed behind the main house. It also means a chief's wife. The word *tua* contains the idea of behind and the physical back, but also of a hierarchical ordering in that it denotes the next in order, especially of children. Prestigious houses are

always positioned at the front of the family property while lowly *fale* are relegated to the back. Within the house, space is also divided hierarchically in the determination of ranking positions within the seating arrangement. As a verb *tua* means to take behind so as to be safe or to rely on that safety. The chief's wife is auxiliary to her husband yet second in power because she is responsible for the direction of the family's women and their work. The chief, superior in rank, is responsible for the well-being of his wife, children, and the extended family as expressed by *tua*'s verb form. The designation of hierarchical ranking is expressed not only in *faletua* but in the various terms used to designate cook houses.

An old word, *paito*, is used for cookhouse in the common speech in contrast to chiefly, formal discourse. Cookhouses are placed toward the rear of the family compound, being associated with dirt and heavy work. The root *pai* means anybody, thus implying a commoner. Although only marginally connected to the nonglottal form, the word *pa'i* indicates *masi* made from refuse food or anything of little value. The term *masi* originally referred to a staple made from breadfruit. The produce was placed in a pit, covered with leaves and left to ferment. Today *masi* is the general term used for all varieties of cabin biscuits. In contrast to *paito* which was a common term, the chiefly word for cooking house was *fale'ese*. The existence of separate vocabularies for the same structure immediately suggests a form of hierarchy. In addition, *'ese* means to be strange, different, extraordinary, or to be removed from. This linkage suggests the chief and his association with food as something removed from and of higher importance than the common individual. A third word for cookhouse further supports this distinction. The word *faleumu* is a common term, rather than chiefly. The *umu* refers both to the cooking pit and the food produced in it, cooking that is done by the young men. When the root *umu* is repeated, as in *umuumua*, it takes on the connotation of dirty or smutty and therefore something inappropriate for one of rank. In this way, *matai* and *taule'ale'a*, chief and untitled men, are separated by rank, status, responsibilities, actions and vocabulary. At the same time, these distinctions are stressed within the verbal application of architectural phrases.

8 The implications of language

Within Samoan society, architecture and language function as parallel sign systems. Through the use of architectural terms and proverbial sayings, verbal distinctions are drawn between groups, and outsiders are designated. The basic Samoan social unit, the family, is delineated and linked with both the structural and conceptual attributes of *fale*. Accordingly children and various lineage branches are tied to the parent group in such words as *falefale* and *ita paepae*. Particular emphasis is given to the chief and his *matai* title through associations with the house structure and food production. Both behaviourally and linguistically this individual represents the larger corporate group which in turn derives its identity from the title and its affiliated lands. These family lands are visually marked by structures, whether it is the lowly plantation shed or the large impressive guest *fale*. The use of verbal significations in parallel with physical signs locks both language and architecture in a reciprocal relationship with the social space which is the descent group. The application of architectural terms serves to reinforce this association.

In addition to the family, house terminology is used to verbally indicate the village membership. As independent social spaces, each community functions analogously to the autonomous families which comprise the larger unit. Such a use of language suggests an

underlying spatial-social framework. In effect, language reproduces both social and physical boundaries, reinforcing them through its own utilisation. Yet, at the same time that rigid boundaries are established, words intimate the possibility of internal variability and modification. As adjectives, architecturally derived words are used to designate the internal characteristics of a particular group. This is most evident in the use of terms such as *falegase* or *faleola*, both of which address the physical and social health of the lineage in question. The social space becomes defined and described through its verbal association with physical structures. In turn those structures derive meaning from their societal context. In regards to the family (and on a lesser scale the village) architecture is a central Samoan linguistic metaphor for the underlying social spaces, replicating verbally the social and spatial boundaries which are visually and physically signified by the *fale* itself.

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Conclusion

12 *Spatial representations of island worlds*

JANET DIXON KELLER

‘Where are you going?’
‘From whence do you hail?’

These are English translations of everyday greetings commonly exchanged among consociates living in Pacific Island societies.¹ They elicit in response placenames, directional indicators or relational positions and facilitate a continual process of keeping track of one another’s movements and activities within culturally constructed territories. Masquerading as simple conversational openings or polite social acknowledgements, these discursive mechanisms have vital, potentially serious interactional consequences (Duranti 1994). No less is at stake in these exchanges than positioning oneself in recent moments in terms of cosmological, social and material orders.

Locating oneself or others in territorial webs of significance is not unproblematic. Nor is study of the significance of places and spatial orientation straightforward. In contemporary anthropology both space and place are contested notions. The world’s populations are taking shape as often in diasporas and doctrinal allegiances as in localised communities. However paradoxical, it may be this very tension between locale and identity that has re-awakened anthropological interest in the connections between the physical world and its human occupants. Whatever the impetus, perspectives on space and place are rapidly multiplying in contemporary scholarship (Basso 1996; Bennardo 1996; Bloom, Peterson, Nadel & Garrett 1996; Feld & Basso 1996; Gupta & Ferguson 1992, 1997; Levinson 1992, 1996; Senft 1997; Stewart 1996).

The present volume contributes importantly to this effort in two major regards. It adopts a regional perspective on cultural topography. An Oceanic orientation to space and place is proposed. The premise here is that properties of island geography, Oceanic linguistic devices and Pacific culture histories offer candidate tenets for spatial reckoning and landscape

¹ Acknowledgments: The research of Stephen Levinson and the Max Planck Cognitive Anthropology Research Group inspired many of the contributions to this volume. I would like to acknowledge this intellectual debt and my appreciation for the research program the group has opened. I also thank Giovanni Bennardo for inviting me to pull together ideas stimulated by the papers collected here. Giovanni, Kris Lehman, Charlie Keller, and David Herdrick read early drafts of the summary chapter and their insights have helped me make more sense of the diverse issues intersecting in current research on the language, culture and cognition of space than I might have otherwise. The comments of one anonymous reviewer were also helpful. Still the subject matter is one in which it is easy to become disoriented. I offer this concluding essay as a preliminary step in our investigative wayfinding.

construction. These resources are selectively adapted and developed in local settings. The result is a series of particular systems in which landscapes are given local meaning, location and direction uniquely configured; and yet which ultimately draw on a set of features attributable to patterns in Pacific island life. This volume is the second collection to include a focus on spatial analyses in Oceania. The initial publication (Senft 1997) is somewhat broader including Austronesian languages from Tonga to Madagascar as well as non-Austronesian languages of Papua New Guinea and Irian Jaya. However, comparing the Austronesian data and contributing authors' observations for Oceania and Indonesia, both books support an argument for regional tendencies evidenced in spatial coordinate systems, grammars, house and village designs, and broader significances of place. As the first world area to receive such attention, Oceania should serve as a valuable precedent for stimulating comparative study within other geographical or cultural groupings.

The book also contributes by demonstrating the advantages of combining linguistic, cognitive and ethnographic approaches to spatial analyses. This emphasis on a multiplicity of data sources converges with the spirit in which Senft (1997) compiled his earlier volume calling for an interdisciplinary approach to space in order to enable adequate comparative study while simultaneously providing the details of specific spatial logics. Bennardo's collection shows that as independent lines of evidence are combined the potential to identify alternative logics increases. The possibility is strengthened that complexities of socio-spatial reference will be recognised in alternative principles, repertoires of designs and locational devices specific to expressive modes, domains or strategic interests. In larger, comparative frameworks, triangulating complementary data sources sharpens scholarly assessment of fundamental issues such as the relativity/universality of human-space interactions, the autonomy of syntax, or regional patterning.

In order to develop implications from this current volume and to consider a general conclusion the chapters need to be seen to constitute a common project. The shared endeavour here is to reveal for the Austronesian peoples of Oceania significant processes and logics by which three-dimensional space is constructed: culturally, linguistically and/or cognitively. This effort integrates the diverse aims of recent anthropological approaches to space and place by focusing on the mechanisms for co-constructing with topography, the logics, landmarks and strategies that imbue social life with local meaning. Structural approaches emphasise frames of reference, perceptual salience and cultural values in outlining the coordinates of a spatial system. Practice approaches emphasise principled arrangements of space in activity or artefact design and the strategic manipulation of these spatial dimensions in social interactions.

Bennardo's volume, building on Senft's (1997) before it, offers an holistic approach unifying space and place as mutually constitutive in the essential meaning-making activities of human life. Chapters connect people and their geography by tying perceptual salience to the construction of conceptual worlds, prioritising frames of reference put to use in distinct activities, suggesting the complementarity of speech, music, gesture and other nonverbal expressive systems for co-creating local contexts, uncovering cosmological orders in mundane affairs and artefacts, as well as recognising regional patterns in a diversity of spatial grammars and cultural practices. I turn now to the specific contributions of the book with a view toward ultimately revisiting these general issues and reflecting on where we go from here.

Chapters two to five focus on linguistic expressions for representing relations in space. Austronesian languages are shown to provide complex and overlapping lexico-grammatical resources including directionals, nouns, case markers and prepositions used selectively for

reference to location, orientation and path of movement. In the cases of Alune and Ambae, where the logic of spatial reference is probed, three absolute axes are identified. The contrasts of land/sea, up/down and transverse anchor grammatical distinctions strengthening earlier claims for these coordinates as principle dimensions of Oceanic spatial reckoning (Senft 1997). Local particulars in the grammars of spatial reference result from the interactions of this absolute system with other dimensions of contrast, and from the unique configuration of lexico-grammatical resources selected within each language to convey spatial information.

A striking feature of spatial reference in Oceania is the interaction of these absolute axes with the deictic system (Senft 1997 esp. Ozanne-Rivierre 1997). Alune, Ambae and Tongan/Niuean all illustrate this pattern although in distinctive ways. In each case directional particles are used to construct spatial descriptions with respect to the main participants in speech events (speaker and hearer). The absolute axes appear to be imported into the speech event and adapted to facilitate reference to the deictic centre, addressee or some third location. While spatial descriptions are in principle independent of deictic contrasts (Levinson 1996; Palmer this volume), Oceanic languages frequently conflate these systems in the grammar of directional particles by establishing a deictic perspective as one canonical use of the absolute axes. While Alune and Ambae incorporate all three absolute axes into their respective systems of directional particles, Tongan and Niuean appear not to use the land/sea contrast in this aspect of the grammar. In their attention to the absolute frame of reference underlying spatial descriptions and the deictic directional grammars, these early chapters provide evidence for some constraints and variability in verbal spatial descriptions for Oceanic languages.

Individually the papers go on to take distinctive approaches to the spatial grammars they respectively describe. Florey and Kelly open their discussion by presenting the logic that ideally structures spatial reference for speakers of Alune, an Austronesian language of eastern Indonesia. They note four zones of experience ranging from the everyday village and its surrounds to the island territory, to the larger region and to more distant realms.

The core system used for everyday interaction is a set of six directionals based on three contrasting, absolute axes: land/sea, up/down and transverse. For reference to each zone beyond the local area a single term from this set uniquely denotes position or directed movement. Case marking and deixis augment the directional system for reference in local space. The scalar influence on spatial reference is another frequent characteristic of Oceanic grammars (Blust 1997; Bowden 1997).

Having modelled the idealised system, Florey and Kelly go on to examine its use in discourse. What they discover is fascinating. Speakers have adapted the prescriptive features of the language in conventional manner to further contextualise, clarify and disambiguate information presented in narrative and spontaneous discourse. In doing this, zones are discarded and unbounded practices emerge. Combinations not prescribed in the ideal descriptions do occur. Some of these discursive practices are motivated by changes in the social context while other innovations serve functions such as disambiguation or increasing precision. This analysis of the interaction of structural logics with situated requirements for successful communication should inspire further examination of the complexity of spatial reckoning.

Hyslop's study of spatial reference on Ambae continues this emphasis on the complexity of communicating location, direction and movement in Oceanic languages. Ambae speakers rely on the same set of absolute parameters for primary linguistic expressions. Also as with Alune,

zones of increasingly broad territorial coverage influence the semantics of the grammatical distinctions creating pronounced polysemy for spatial indicators.

In local space, the directional terminology opposes land/sea (usually conflated with up/down) to a transverse axis. The local topography is precipitous and this feature of the environment motivates the tendency for 'up' to be conflated with 'landward', and 'down' with 'seaward', although in appropriate contexts the two axes can be distinguished. Directional terms take on new significance in the context of the larger island. The vertical axis is associated with the regularised line of the coast that runs southwest ('down') to northeast ('up'). The grammatical marker denoting the transverse axis is used in reference to travel or location across the island, orthogonal to the long axis. This system shifts again in the next larger zone when nearby overseas locations or movements are referred to. In the zone of neighbouring islands, north and west are to the lee of Ambae and specified as 'down' while south and east are to windward and 'up' (see Keating this volume). Only one island positioned on the long axis extending out from Ambae is noted as 'across'. More distant foreign sites and paths are referred to exclusively as positioned in an upward direction from the local context.

As noted above the absolute distinctions (land/sea, up/down and transverse) are imported into the deictic system. Although discursive requirements seem to modify the original structures less significantly than was the case for Alune, prior knowledge, topographic features—especially distinctions in height—and criteria specific to the immediate zone of relevance do influence utterances. Hyslop also describes a specialised use of the directionals in small-scale space to create an intrinsic reference system.

Hyslop's work reaffirms the absolute axes and zonal influences structuring spatial reference as well as the situated flexibility introduced by Florey and Kelly, features also noted as generally characteristic of many Oceanic languages. What Hyslop's careful research adds is twofold. First, she documents extensive polysemy for elements of spatial grammar and provides a model of the kinds of overlapping systems of reference that might be expected for other languages. This analysis also anticipates arguments, briefly noted in the next chapter by Sperlich and more fully developed in Palmer's work in the next section, for the role of perceptual selection of topographic features in formal grammars of space.

The next chapter by Sperlich offers a detailed look at Niuean spatial reference and a comparative perspective on the two very closely related languages: Niuean and Tongan. The comparison is particularly useful. The outlines of the two systems are similar, yet differences noted caution researchers against the presumption that close language relationships entail identical linguistic means for reference to space. In the context of a regionally organised volume this is an important message reminding investigators of the need to carefully document the distribution of any proposed commonalities.

Sperlich details the role of selected morpheme classes in spatial description. He begins with prepositions including case markers with which he indicates spatio-temporal connotations are habitually conveyed. As others have done he goes on to remark the directional particles used in spatial reference. He also describes the various classes of spatial nouns used in making reference to places and paths and notes how these overlap with or diverge from the Tongan inventory of such nouns. Interestingly the land/sea axis is not singled out in Sperlich's discussion as uniquely important. A contrast between *tutavaha*, '(deep) sea', and *uta*, 'inland', is noted as one of many oppositions available for spatial reckoning. Tongan is structurally similar (Bennardo 1996). The significance of the landward/seaward opposition in contrast with Alune and Ambae is not addressed. Nor is the

absence of this dimension in the grammar of directional deixis discussed. Both topics are worthy of future study. Sperlich's discussion of environmental features that might motivate the Tongan and Niuean systems, especially the brief reference he makes to the path of the sun and directions of the wind, stands with Hyslop's reference to the importance of elevation for Ambae speakers in anticipating Palmer's comprehensive treatment of environmental influences on the language of space.

Sperlich's is the first chapter in the book to make an explicit connection between language and culture. He points out that Polynesians enrich their environments with numerous named landmarks (Krupa 1982; Loeb 1926), and that they personify place in grammar, cultural practices and emotional attachments (see Cook this volume as well). Sperlich goes on to elaborate aspects of the construction of cultural geography. His attention is focused on selective dimensions of the linguistic side of a process of taking identity from the land and reciprocally infusing identities into the landscape (Rodman 1985:68; see also Kanahele 1986; Bonnemaïson 1984; Lindstrom 1990; Dominy 1999). This turn in his work anticipates the integration of language and culture through place naming which is the subject of the next chapter.

Cook provides a detailed analysis of the syntactic treatment of locative nouns and placenames as a single class in Hawaiian. He motivates this class semantically—in that both refer to locations; structurally—in that both lack articles; and culturally—in that both are used in metonymical reference for people who reside in a particular place referred to. Cook outlines the contrastive patterns for case marking of personal names versus common nouns in Hawaiian. He goes on to show that both placenames and locative nouns are treated as personal names when they occur as participants to a reported event and are cast as subject, object or stative agent. On the other hand, when places serve as settings—locations, destinations or sources—they are only weakly individuated, and as thus backgrounded, they are marked for case as common nouns (see Hopper & Thompson 1980).

Echoing Sperlich, Cook goes on to remark the profound cultural significance of place in traditional Hawai'i and refers to the work of others (Kanahele 1986; Luomala 1949; Pukui, Elbert & Mookini 1974; and Pukui 1983) who have previously noted the personification of landmarks and the importance of place for Hawaiians. Ancestry and residence literally 'ground' identity. Everyday experience is understood in the context of historical and cosmological orders associated with a sentient land. The grammar of case marking combines with the mythical origins of Hawaiian life and lyrical references to place in a rich tradition for expressing ties of people with their places.

Ozanne-Rivierre's claim that 'oral texts can often only be properly understood when the spatial context of an utterance is precisely known' (1997:84) is amply supported in these early chapters. A listener or translator must be able to follow references to location and direction imposed on three-dimensional space while also recognising the cultural and conceptual significance attached to place in general and to the mention of specific sites in particular. Texts draw on cognitive preferences, linguistic orders and cultural meanings that independently and in conjunction locate events and suggest their significances.

The three chapters of Section Two (Space in mind) explore cognitive representations of three-dimensional space. Palmer's contribution is fundamental. In comparative study of Oceanic spatial grammars he finds provocative correlations between properties of environments and the logics of absolute frames of reference. Palmer goes on to demonstrate the role of perceptual salience in prioritising spatial coordinates. Without claiming universal patterns in the contrasts made by particular systems, his argument provides a universalist

approach for the investigation of spatial coordinate systems. In achieving this he works out the mechanisms for pursuing research that will elucidate the significance of a general claim which appeared previously in Blust (1997:50): 'Experience is shaped by the physical (and cultural) environment, some parts of which are available to all (e.g. the path of the sun), while others are available only to those who inhabit particular environmental niches'.

In island communities, Palmer argues, the land/sea contrast is perceptually salient and typically (but not exclusively) provides the cognitive anchor for spatial reckoning (for possible exceptions see Keesing 1997; Sperlich this volume; Bennardo 1996). The idealised line of the coast, points of sunrise and sunset, wind directions and the vertical axis may be used as opposing axes, orthogonal to or otherwise complementing the land/sea contrast. Many permutations are possible in building systems of spatial coordinates from the perceptually salient axes. One such possibility is conflation of the vertical axis with the land/sea opposition as illustrated for Ambae where the topography is precipitous.

Palmer distinguishes primary and secondary axes of spatial coordinate systems defining the former as 'directly motivated by a perceptually salient physical world phenomena' and the latter as an axis 'which has no motivating physical world phenomenon ... and which derives its bearing from another, primary, axis'. He also distinguishes vectors and quadrants as alternative forms for systems of spatial reference, and notes the potential for spatial contrasts to be bounded (as in the case of reference appropriate only to particular zones of experience as for Alune and Ambae speakers) versus unlimited in extent.

After examining the data for Longgu, Nemi, Tolai and Kokota, Palmer proposes that the boundary between land and sea motivates a primary landward/seaward axis in Oceanic grammars of spatial reference. Variable features of the Austronesian systems examined include the limits on axial reference; whether or not the transverse axis or another primary axis linguistically distinguishes two poles; the particular features motivating the secondary or alternate primary axes; variations to the system applicable in small-scale or macro-space; variations relative to local geographical features associated with different communities in which the 'same' language is spoken; conceptualisation of the system as one of quadrants or vectors; and cardinal translations. With regard to this last point, he is careful to indicate that translation of Oceanic spatial coordinates into cardinal directions can obscure the differences in logics motivating these distinct coordinate systems.

Palmer goes on to show how spatial reference based on a land/sea axis as documented for long islands is also evidenced on atolls and round islands. Taking the case of round islands, the landward/seaward axis will operate uniquely radiating 'out from the centre of the island, apparently in every direction, crossing a regularised but curved coastline at every point'. Such a radial system is then augmented by additional grammatical means for distinguishing locations, movements and directions. This may be one factor influencing the integral role played by deictic contrasts in the grammar of directional particles for many Oceanic languages. Positioning via deixis offers a set of obvious and immediate, local reference points for fixing events along a particular radius from among the infinite radii of land/sea contrasts available. Landmarks and spatial nouns further serve as resources to disambiguate and increase the precision of spatial reference.

On the basis of his analyses, Palmer argues that the conceptual building blocks of Oceanic spatial coordinates can be reconstructed for Proto Malayo-Polynesian (see also Blust 1997). Each contemporary community has developed a synchronic system in response to features of their geography. This is a profoundly unifying claim that answers Bennardo's call for attention to regional similarities while simultaneously providing a mechanism to account for variability

in spatial description throughout the Pacific. Palmer's argument unites conceptual and grammatical systems providing clear evidence for the motivation of at least some syntactic markers in perceptual/conceptual experience. By drawing attention to nonsyntactic determinants of formal grammatical relations Palmer offers a new vantage point for assessing the autonomy of syntax argument integral to transformational-generative grammar and mandates further research on the interactions of cognitive, linguistic and cultural systems.

Bennardo's chapter goes on to elaborate the evidence for a radial system as an absolute frame of reference for Tongans and probably more widely relevant throughout Oceania. This spatial arrangement is strikingly revealed in hand-drawn maps of the island of Vava'u, an irregularly shaped landmass that is often drawn by local residents as circular with vectors moving out from the island centre to prominent landmarks. Using linguistic, psychological and ethnographic data, Bennardo provides independent lines of evidence for radially as a significant cognitive principle for the people of Tonga. He demonstrates this principle in the deictic contrasts integral to the language of space, as a possible mechanism in memory for locations and in the cultural patterns of food-sharing and redistribution evidenced for ritual-feasting. This is an exceptionally thorough treatment.

Bennardo's chapter is a particularly interesting case because the evidence suggests the possibility that island geography for at least some purposes may be modelled on the basis of cognitive preference for a radial system. If this is true for Tonga, unlike Palmer's usual cases, Bennardo's work would suggest that primary spatial coordinates may not be derived exclusively from perceptually salient phenomena. Instead the Tongans may construct a representation of their geography (the circular conception of Vava'u) from established conceptual contrasts expressed in the grammar of spatial reference and the logic of cultural practice. This should alert the reader to multiple directions of influence among linguistic, spatial and cognitive systems. By implication the construction of spatial logics and positioning must be understood as nondeterministic, an important qualification to Palmer's articulation of his view at least at times in deterministic terms (MS pages 150-152).

Lehman and Herdrich raise the question of the proper representation for the encompassing system of formal relations within which finer spatial and directional contrasts are made. They oppose point fields and bounded containers as alternative views of space. The former is the notion of space as an unbounded field defined on any point, while the latter is a region contained by a well-defined boundary. The authors demonstrate the advantages of using a point-field perspective to account for Samoan spatial concepts. Of particular interest to these authors is the Samoan tendency to lexicalise centre points and directed movement away from centre while avoiding designating boundaries. This holds, they argue for both spatial units and their metaphoric extensions. Fundamental semantic distinctions and ethnographic practices are elucidated by reference to the defining features (centre, point and vector) of an unbounded, radial, point field. Lehman and Herdrich go on to resolve previously incompatible interpretations of Samoan village organisation in a single integrative model by embedding the otherwise conflicting distinctions of land/sea and front/back within an overarching point-field conception of space.

The orientation of these authors is interesting in light of the radial and bounded representations described in previous chapters. In the future, researchers should investigate these spatial frameworks as alternative possibilities. For example, is the contrast between contained versus unbounded space in discussions by Florey and Kelly, Hyslop and Palmer adequately captured by the presence or absence of a boundary? Might we gain further insight from interpretation of these spaces in light of point-field semantics? Going well beyond

language, Lehman and Herdrich point out it is difficult not to be struck by the parallels of a point-field model with the *etak* system of Micronesian navigation (Bennardo 1998). Hyslop is the only other author in this volume who briefly mentions spatial reckoning at sea. Further attention to this issue may prove useful in deciding the aptness of container or point-field models for Oceania. Historical connections with the Asian mainland are developed in this chapter in the interest of motivating further comparative study of spatial reckoning.

Because the only access we have to cognitive mechanisms is through behavioural expression, these three chapters form an important core to Bennardo's volume. Each explicitly makes connections between conceptual frameworks and their realisations in verbal or other cultural practices. As a result a strong case for the combinatorial approach of the book as a whole emerges in this central section.

The chapters of Section Three examine spatial arrangements from an ethnographic perspective. Keating illustrates the use of space to encode social hierarchy, a pervasive feature of Pohnpei as well as other Oceanic societies. She presents an inventory of oppositions onto which social inequalities are variously mapped: up/down; left/right; in/out (landward/seaward); east/west; front/back (face/bottom). Many of these oppositions figure prominently in linguistic contrasts discussed in previous chapters. Keating, herself, ties the ethnographic use of space to verbal practices in Pohnpei. Rather than focusing on spatial grammar, however, she notes the use of alternate registers to convey status marking. Status-marked speech is optional and Keating suggests further research into the factors motivating code-switching from marked to unmarked forms would likely reveal the pervasive, situated and strategic negotiation of social difference.

Language use is only part of a larger behavioural repertoire for marking status on Pohnpei. Relative placement on a vertical axis, left/right contrasts, directed gaze and position in the local topography contribute to the available means for expressing hierarchy. Among the many symbolic connections illustrated is the Pohnpeian association of 'east' with 'up' (also noted elsewhere in Oceania) which motivates a 're-imagining of the landscape' such that the easterly region of the island is conceptually above the west, an association derived from social history and ceremonial practices rather than topography. In practice, ritual activities encode status by marking chiefly positions relative to others. Chiefs often face their audience from an inside position looking down and out toward the sea or away from the bush, and in some cases may be obscured or covered by smoke, another symbolic indicator of prestige. Seating arrangements in community feast houses reveal status by contrasting participants' positions and gaze on an inward/outer axis (recalling point-field semantics), differentiating the elevation of seats for community members of distinct statuses, and assigning participants selectively to left and right sides of the arena.

In line with other chapters that have contrasted ideal models with contextual productivity, Keating shows that the symbolic associations are manipulated in practice. In the case she develops, the values for left and right are conventionally inverted in particularly high-status contexts to emphasise prestige. This inversion may be a kind of behavioural code-switching facilitating situated specificity. Keating concludes by re-emphasising the importance of spatial metaphors in conveying hierarchical orders. She also emphasises the potential to manipulate underlying logics and surface forms of these orders for perspectival or contextually specific ends.

Toren's chapter develops the relevance of space for expressing social difference through her case study of Fijians. She provides a compelling analysis of kinship, age, gender and respect as embodied in posture, position and orientation appropriate to material contexts of

interaction. Lived space, patterns of significance that emerge in routine behaviours at home, in the village and on the land, is the expression of relational status in context specific forms. As did Keating, Toren points to the importance of above/below, facing, and land/sea oppositions as spatial metaphors of both equality and hierarchy. Toren gives a child's-eye-view of socio-spatial constructs and documents the child's construction of culturally appropriate senses of social positions and relationships. Children become members of social categories through acquiring the characteristic postures, gestures and interactional patterns that typify relational possibilities. The behavioural repertoires enacted by children (and adults) constitute a subjective dimension of social order. Cultural logic is experienced, felt, expressed and manipulated in manifold configurations of the body and self.

Guernsey Allen, in the last chapter, develops associations between architecture and socio-cultural concepts central to Samoan life. She ties architectural terminology to the family, descent lines, social processes such as conflict and cooperation, and chiefly influence. The tension noted by Keating between hierarchy and equality is present in Allen's discussion as well. The metaphors based on the house are ubiquitous and serve to capture the essences of kinship, village and island life. These metaphors symbolically unite the Samoan principles of sociality with material structures of daily residence, thereby reproducing social and spatial orders in concert in a form constitutive of everyday living. The macrocosm of Samoan life takes shape in the microstructures and spatial relations within the house (Bowden 1997).

Interestingly, Allen is able to tie the house as protective dwelling for the family, to the placenta perceived as protective source for the individual to the land designated *fanua* (a synonym for placenta). This gives additional weight to the proposal in Cook's chapter for integral connections experienced by islanders with their environment, tradition and identity; connections that warrant interdisciplinary study attune to ramifications everywhere from grammar to placenames to posture to ritual exchanges and conventions for drawing. Through these webs of significance, peoples of Oceania are integrally constituted by the very land/sea worlds they construct.

Allen's study resonates with the rest of Bennardo's volume. Her attention to the symbolism of architecture reintroduces the significant dimensions of spatial cognition and spatial reference in language and nonverbal practice. Issues of centre, vector and the problematics of boundaries are recurrent, recalling Lehman and Herdrich's attention to point-field semantics. Family encompassed by architectural space and the individual encompassed by the placenta suggest bounded containment. Perhaps through additional studies on the model of Allen's work, the respective contributions of these larger schemes for representing three-dimensional space may be more clearly articulated and their selective relevance for Oceania discerned.

In summary, Bennardo's volume unites a wide-ranging yet coherent set of contributions. For all their diversity the chapters are well chosen. The authors speak individually and collectively to the promise for triangulating research on language, mind and culture. These chapters transcend the debates opposing interpretive and scientific analyses by focusing on dynamic relations among public acts (verbal and nonverbal), structural logics, and mental representations (Shore 1996) that can be researched through diverse methodologies. Disciplinary traditions aside, study of mental, linguistic or other ethnographic phenomena is demonstrably enhanced in this volume by integrating complementary sets of data and articulating arguments from complementary perspectives.

Taken together the chapters of the volume strongly support the claim that spatial reference, spatial arrangements and spatial concepts are critical components of cultural events and

artefacts. As many have argued recently (Duranti 1994; Basso 1996; Lindstrom 1990; Farnell & Graham 1998), spatial relations are shown to be constitutive of social relations and substantive ideas. Sophisticated means for the analysis of expressions of spatial relations must be available and these chapters provide an inventory of research tools that will prove useful in this regard.

Beyond this general call for increasing, interdisciplinary attention to spatial praxis, Bennardo's volume begins to unify hypotheses relevant to Oceanic spatial reckoning. Palmer's contribution stands out in this regard for he makes a number of claims with respect to the underpinnings of Oceanic spatial coordinates. Of singular importance is his claim for the primacy of a land/sea axis in absolute frames of reference, a position supported directly from evidence for Longgu, Nemi, Tolai, Kokata, Manam, Tokelau, Alune and Ambae. The data presented in other chapters from Tonga, Niue, Samoa and Fiji provide suggestive evidence that the land/sea axis is central to these islanders' systems of orientation although richer descriptions need to be brought into the discussion and exceptions to Palmer's claim (Keesing 1997) need to be examined.

In conclusion, this collection of papers sets out several paradigms for future research. The role of perceptual salience and topographic properties in motivating conceptual logics has been effectively argued. Comparative study should now be informed by the physical and cultural influences noted here and move increasingly toward a universalist approach to spatial reference. This does not mean that explanatory logics sought by researchers will be substantively the same across societies, but rather that interactions of human beings with their environments hold the key to explaining particular coordinate systems. It should be possible to explain the universal process by which perceptual salience selects candidates for the formation of spatial coordinate systems while researchers simultaneously account for particular systems in terms of their unique histories and influences.

Secondly, Oceanic regional studies have been given a huge boost that should inspire continuing investigation. Of highest priority for this world area is clarification of the absolute frames of reference predominating in spatial descriptions and the complementary roles of relative and intrinsic alternatives. It will also be important to address the distribution of spatial referencing tasks over selected resources of Oceanic languages while simultaneously addressing the productive, strategic mustering of these resources in performance.

Bennardo and his colleagues challenge researchers to continue their advances both theoretically and empirically. With respect to theory, the contributions demand improved frameworks within which space and place can be integrally and integratively investigated. With respect to substantive observations, challenges will arise as we follow Oceanic systems of spatial reference now documented or soon to be described. As Pacific islanders continue westernising or modernising in their own terms and increasingly join diasporic movements, spatial analyses will only grow in importance. How will local systems influence the cardinal logics with which they come into contact and vice versa? How will new balances between mobility and residence encourage islanders to reimagine artefacts, places or geographic realms and the values attached to them? How may new forms of multilingualism support new forms of spatiality? What role will space and place play in emerging Pacific identities? The present volume offers a foundation for proceeding.

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